SOUTHAMPTON ISLAND AREA ECONOMIC SURVEY

with notes on
repulse bay and wager bay

report

d. m. brack

september 1962

INDUSTRIAL DIVISION
DEPARTMENT OF NORTHERN AFFAIRS AND NATIONAL RESOURCES

SOUTHAMPTON ISLAND

AREA ECONOMIC SURVEY

With Notes on

Repulse Bay and Wager Bay

D. M. BRACK

AREA SURVEY OFFICER.

Area & Community Planning
Section, Industrial Division,
Department of Northern
Affairs and National Resources.

Ottawa, September, 1962.

Contents Page

Contents cont'd. Page

INTRODUCTION

The following report is the result of an Area Economic Survey of the Southampton Island - Repulse Bay - Wager Bay area which was commenced in May, 1961. The object of the Survey has been to examine the resources of the area and the way in which these resources are being used by the local people. The main purposes of the Survey have been (a) to note in what ways resource exploitation could be improved, and (b) to determine to what extent the area could support a larger population. The latter line of enquiry was made necessary by virtue of the possible shut-down of the North Rankin Nickel Mine in the near future. A large number of Eskimos are now concentrated around the mine, and if the mine closes their major economic support will have ceased to exist. In this event it will be necessary to consider the desirability of resettling many of them in other areas since the natural renewable resources in the immediate area of Rankin Inlet are insufficient to support them.

In pursuing its first line of enquiry - the examination of resource exploitation by the local people - the Survey has been performing one of the functions of the Industrial Division of the Department of Northern Affairs and National Resources. The detailed study of resource exploitation is now accepted as a basic requirement in the field of resource development in the north. Several such studies have been carried out in recent years, and many more are planned for the future.

The field work of the Survey was undertaken during the summer from mid-June until the beginning of October. During this period the Survey party talked with practically every adult male on Southampton Island and had many discussions in which family groups participated. In addition, between mid-July and mid-September the Survey party travelled 1,560 miles in an Eskimo-manned Peterhead to Repulse Bay, Duke of York Bay, and Wager Bay. During this part of the Survey the party carried out test netting for fish in many locations, and had discussions about local resources with Eskimos in Repulse Bay and Wager Bay.

* * * * * * *

It is sometimes maintained that the Eskimos know all that there is to know about the exploitation of the resources of their environment. That this is not the case is becoming increasingly evident. Also, as the Eskimo population continues to become concentrated in certain areas to take advantage of school and medical facilities, stores, and the opportunities for casual employment; and as medical facilities result in an expanding population; and as new wants and aspirations are generated as a result of increasing contact with the white man's culture, it becomes more and more evident that the traditional methods of obtaining sustenance from the land and the sea are no longer adequate.

It could be argued that the solution to the problem of concentration is redispersal, but this assumes that the Eskimos themselves would be willing to scatter once more across the face of the land, and up and down the coasts, exposing themselves to a precarious, niggardly, and very insecure existence. Some might be willing to do this, but they are in a minority.

There is, of course, a school of thought which maintains that the Eskimos should be "left alone". The advocates of this form of inaction are rarely, if ever, very explicit - what is involved in leaving the Eskimos alone is supposedly understood. It would seem that proponents of this argument overlook the fact that the damage, so to speak, has already been done. The Eskimo has been drawn into the exchange economy where he is at the mercy of the fox fur market - and foxes used to be regarded by the Eskimo as stupid animals not worthy of the attention of a good hunter. His old beliefs in the spirits have been largely replaced by the rituals of Christian worship. If leaving the Eskimos alone means leaving them to die of starvation and tuberculosis, then even more "damage" has been done by the introduction of medical facilities, mercy flights to outside hospitals, and yearly x-rays. All these make it possible for the Eskimos to live healthier, more comfortable lives; and the old need no longer believe that their last hours will be spent dying of exposure to the elements or that their end will come in a last desperate suicidal act. In the pages which follow there will be found no subscription to the theory that somewhere north of the 60th parallel there should be a notice proclaiming: "Arctic Museum - do not touch, feed, or otherwise disturb the exhibits".

One can detect, at times, among the older Eskimos, a sense of loss and bewilderment. Traditional values and customs have become obscured and overridden by the uncertain values and habits of this brave new world in which the Eskimo has become embroilled. In this process of change the older Eskimos have nothing in their previous experience which they can turn to as a guide for their young people. The young people in many cases realize that the ways of their forefathers are not the ways of the future, and they can only try to feel their own way, uncertainly, without the support of guiding paternal hands. As in other underdeveloped areas the process of adjustment is accompanied by lack of understanding of the implications of all that is happening, and by considerable social strain.

The facts must be faced - outboard motors, houses, store-bought foods and clothes, and many other items which can be acquired only by cash or credit are now part and parcel of the Eskimo's way of life. In order that he may enjoy these things it is necessary that his economic base be broadened and expanded beyond the limits of the "one-crop" fox fur economy. To achieve this it is perhaps not necessary for the people to be dispersed about the land and coasts, but it is necessary that they begin to accept and understand new concepts of resource harvesting and utilization. It is necessary that they apply improved techniques and use better capital equipment, that they receive guidance and training in what to produce and how to produce it, and - above all - that they gain renewed faith in the potential of their local resources to provide more than minimal security.

Summary of Recommendations.

It is recommended that:

(1) The rationale of introducing caribou to the Island be made the subject of a conclusive investigation.

(2) A small-scale sealskin tanning plant be set up as an experimental or pilot project.

(3) The use of marine oils as fuel be the subject of further scientific investigation.

(4) Technical help be provided to aid the Eskimos in setting up co-operative enterprises.

(5) The possibilities of training Eskimos in the principles of game management and recording be investigated.

(6) A vessel larger than a Peterhead be made available for resource harvesting.

(7) Technical help be provided to improve food preservation and processing techniques.

(8) Seal nets be made available.

(9) A fishery be developed, based on either a cannery or a freezer.

(10) Facilities be made available for the repair and overhaul of marine equipment.

(11) An experimental horticulture project be started.

(12) The handicraft phase of the economy more strongly developed.

(13) Provision be made for the building of a handicraft centre.

(14) Plans be made for the development of a tourist enterprise in 1963.

Recommendations affecting an influx of population

That a sociological and economic study of potential "immigrants" be made at an early date. Initially, the number of families

coming into the Island should be limited, if possible, to about 10 (say 50 people); and plans should be made to prevent undue pressure on the resources of the Island.

These recommendations refer specifically to Southampton Island and are enumerated in more detail on P. 72.

Detailed recommendations for Repulse Bay and Wager Bay are not included in this report.

Acknowledgements

In preparing this report the author has had occasion to consult with many agencies and individuals concerning particular topics. Particular thanks are due to the following:

Dr. Tener, Mr. A. McPherson, and Mr. R. Harrington of the Canadian Wildlife Service.

Dr. E. Grainger, Dr. A. Mansfield, Mr. G. Hunter, Dr. J. Johnson and other members of the staff of the Fisheries Research Board (Arctic Unit) Montreal.

The staff of the office of the Regional Administrator, Department of Northern Affairs, Churchill.

Mr. E. Mitchell, Manager, Hudson's Bay Company, Coral Harbour.

Rev. Father Choque, O.M.I., Coral Harbour.

Mr. Henry Voisey, Manager, Hudson's Bay Company, Repulse Bay.

Rev. Father Trebaol, O.M.I., Repulse Bay.

Mr. B. Gunn, Area Administrator, Coral Harbour.

Mr. T. Patterson, D.N.A., Coral Harbour.

A particular word of thanks is due to Pammeeolik who, with his sons Tony and David, and their friend Tattuinee, took the Survey party safely in his Peterhead from Coral Harbour to Repulse Bay, Duke of York Bay, Wager Bay, and back to Coral. Among the many people in Ottawa who helped the author in his work particular thanks are due to Mr. R.A. Jenness, Mr. J.R. Lotz, Mr. A.G. Loughrey, and Mr. C. Russell. In the course of the Survey the author was fortunate to have the very able assistance and enjoyable companionship of Mr. Tony van Zyll deJong, Mr. D. Johnston, M.J. Bedard, and Mr. R. Bateman. Mr. deJong was seconded to the Survey by the Northern Co-ordination and Research Centre.

While all these people have helped the author in his attempts to produce an accurate and balanced report, the author alone is responsible for any inaccuracies, errors of judgement, or misinterpretations contained in the report.

This report first appeared in March, 1962. This second revised printing has been made available through the co-operation of Northern Co-ordination and Research Centre who arranged for its production and distribution to universities, institutes, and bodies and individuals interested in the Canadian North.

Fig. 1 Location Map

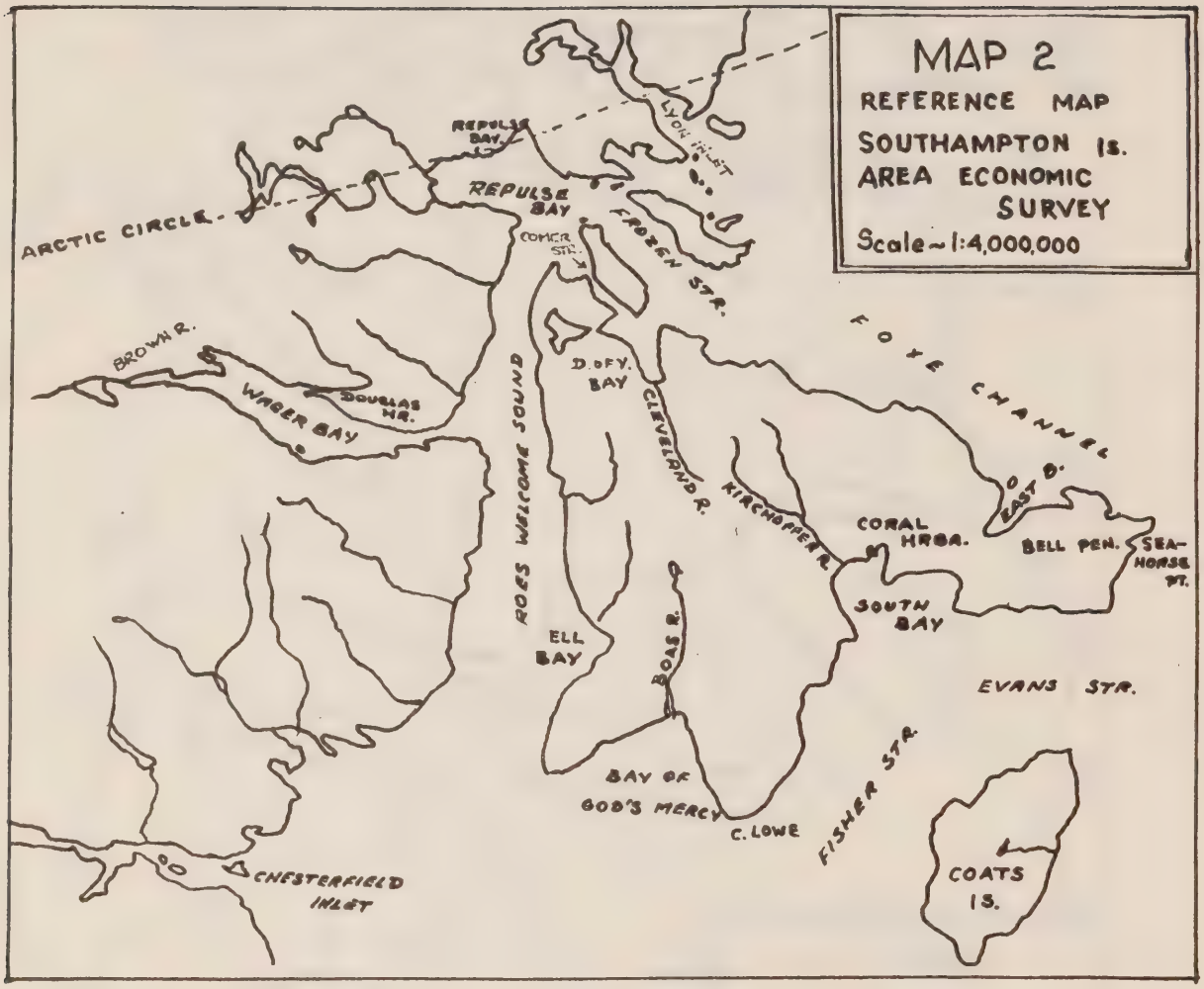


Fig. 2 - Reference map

CHAPTER I

CLIMATE AND PHYSIOGRAPHY

No attempt will be made here to describe or discuss in detail the physical geography of Southampton Island and the neighbouring Keewatin mainland. Only a brief summary of the more important aspects will be presented, and the interested reader will find a list of publications for further reference at the end of the chapter. The following account is derived from these sources plus information obtained during the Survey.

Climate

Climatic data are presented in Table I on the following page.

Throughout the greater part of the year the pressure distribution over the Canadian Arctic is characterized by a ridge of high pressure over the Mackenzie region and a trough of low pressure over Hudson Strait. During the summer months the high pressure tends to shift northward and the low slackens in intensity. As a result, Southampton Island, which lies between the high and the low, experiences prevailing winds from the north, northwest, and northeast. South and west winds are more common during the summer than at other times of the year, and southwest winds are not common at any time. Calms are infrequent, occurring mainly in the early spring. The direction of the wind coupled with low temperatures and the fact that the average monthly wind speed is rarely less than 12 m.p.h. results in a relatively high windchill factor. Generally speaking, the area is cold in winter and cool in summer. As can be seen from the table, both rainfall and snowfall are low.

Physiography

A generalized relief map is shown in figure 3.

Two main rock types are distinguished in the area:

(1) Limestone which comprises the western and southern parts of Southampton Island.

(2) Precambrian granites and gneisses throughout the remainder of the area.

The limestones area which is a part of the province of the Hudson Bay Lowlands is a gently undulating area which rises in few places to more than 250 feet. The terrain is characterized by poorly integrated drainage with many lakes and ponds, some so shallow they freeze to the bottom during the winter. The surface is strewn with shattered limestone and vegetation is relatively scant except around marshy areas and ponds. The streams follow their courses over rapids and shallows and across numerous small water bodies. The largest river crossing this area, the Boas, enters the sea in Bay of

Table I Selected Climatic Statistics for Coral Harbour

MONTH	Temperature					Relative Humidity	Precipitation			Wind Directions Percentage frequencies means of 24 hourly observations daily								
	Daily Mean	Mean of daily		Absolute extremes			Mean total, all forms	Max. fall in 24 hours	Mean snow-fall (ins. of snow)	N	NE	E	SE	S	SW	W	NW	Calm
		Max.	Min.	Highest Recorded	Lowest Recorded													
	°F	°F	°F	°F	°F	%												
Jan.	-24	-16	-32	19	-61		0.3	0.20	3	36	12	8	1	1	1	6	28	7
Feb.	-23	-15	-31	30	-55		0.3	0.31	3	32	11	12	1	2	1	5	26	10
March	-11	- 2	-20	31	-51	91	0.3	0.46	3	34	12	18	2	2	1	3	19	9
April	4	14	- 5	40	-39	92	0.6	0.97	5	29	14	14	3	2	3	7	20	8
May	21	28	14	48	-36	92	0.5	0.89	5	24	15	15	5	3	4	9	19	6
June	36	42	30	67	11	85	0.9	0.83	1	18	10	16	8	9	5	12	17	5
July	46	54	38	77	30	78	1.4	1.15	0	19	10	11	9	16	6	10	15	4
Aug.	46	53	38	79	26	80	1.5	1.08	*	22	9	14	7	10	6	8	20	4
Sept.	33	38	28	63	8	89	1.1	0.90	3	24	13	15	5	7	5	10	17	4
Oct.	18	24	11	41	-20	92	0.9	0.52	9	28	13	14	5	5	4	8	21	2
Nov.	3	11	- 4	35	-34	96	0.6	0.30	6	36	14	15	3	3	2	5	19	3
Dec.	-13	- 5	-21	27	-53	94	0.4	0.34	4	38	14	15	1	2	1	3	22	4
Mean	11	19	4							29	12	14	4	5	3	7	20	6
Extreme or Total				79	-61		8.8	1.15	42									
No. of years Obsns.	11	11	11	15	15	6	11	13	11	6	6	6	6	6	6	6	6	6

Source: Pilot of Arctic Canada, Vol. II, 1959

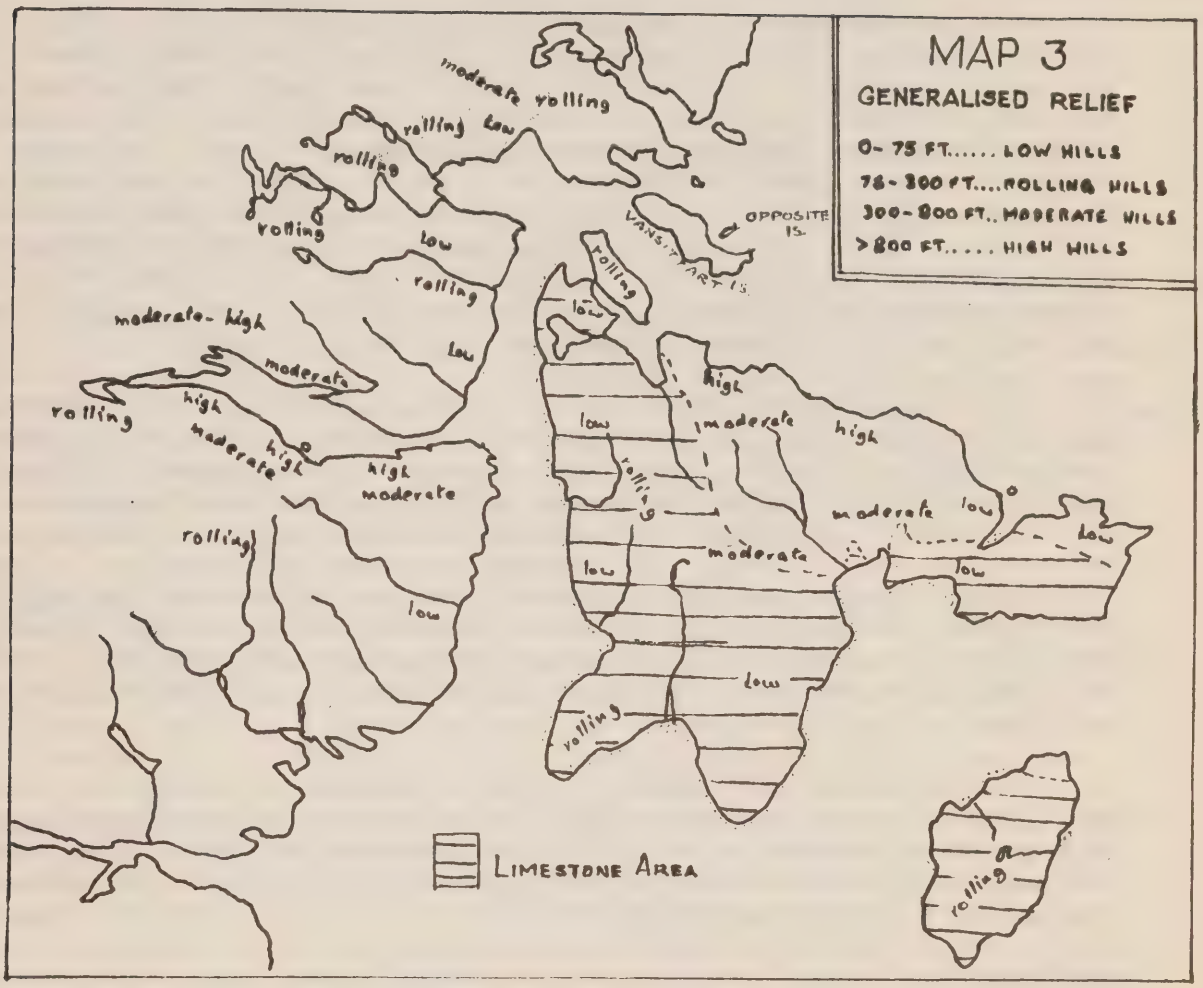


Fig. 3 - Generalized Relief

God's Mercy. The lower reaches of this river comprise a wide and extensive system of braided channels and marshes which provide a vast nesting area for wildfowl. The limestone coastline is generally smooth with few deep indentations, marked throughout much of its length by low cliffs, and characterized by extensive drying flats at low tide, (see P. 1) Inland from the coast are many lagoons and low rising terraces.

The Precambrian areas rise to higher elevations, but nowhere in the area does the height of land reach 2,000 feet. The maximum elevation on the eastern uplands of Southampton is about 1,600 feet in the northeast. Three major rivers, the Boas, the Kirchoffer, and the Ford, rise in the uplands and pursue southerly courses in broad open valleys. A strange feature of these uplands is the lack of lakes - a rather unusual absence in the Arctic. The cover is mainly frost-shattered material, and bare outcrops are common. In the north and west many large boulders are scattered across the landscape. In contrast to the limestone coast, the eastern coast of the Island has many small bays and indentations, the land rises steeply from the sea, and the water is deep inshore.

On the Keewatin mainland the relief is low and the topography undulating or rolling. On the south coast of Wager Bay the land rises steeply to about 1000 feet (see P. 2) and falls slowly to the southward. Along the north coast of the Bay the land rises to 800 feet within a few miles of the shore. Westward low rounded hills predominate and terraces and raised beaches are common at lower levels. The streams and rivers entering the Bay along the south shore are fast, and because of the steep slopes are torrential in their upper reaches. The streams entering along the north shore are somewhat slower but also have rapids and falls in their upper reaches. At all the river mouths boulder-strewn sand and gravel flats are exposed during low tide (P. 3).

Northward, the landscape is one of rolling or undulating hills of low relief extending to Repulse Bay. Outcrops are common and there is much sand and gravel deposition in depressions and along water courses. Vegetation is more abundant than on Southampton and in the early summer the area has an almost verdant appearance.

Ice Conditions

Ice conditions are important from the standpoint of navigation and the fact that the people in the area are dependent on marine mammals for a large part of their food supply. Two major events associated with ice conditions are freeze-up and break-up, and as will be seen the dates of these are by no means predictable within narrow limits.

South Bay, Southampton Island - Freeze-up may be expected to commence in early October. In winter there is usually an open lead between Southampton and Coats Island. The position of this lead varies but is commonly about 30-40 miles from Coral Harbour. During periods of very calm weather this lead may freeze over but is difficult to cross. The landfast ice of South Bay is solid, and by late spring usually has a smooth snow-packed upper surface. Ice is usually on the move in Fisher and Evans Straits during the winter. The sea ice may be expected to leave during the first fortnight in July as the following table shows.

Table II

Dates of ice leaving South Bay

1917 - July 14	1930 - July 15	1953 - July 5
1918 - Aug. 8	1949 - July 5	1954 - July 16
1925 - July 12	1950 - July 11	1961 - July 15
1926 - July 11	1951 - July 16	
1927 - July 8	1952 - July 5	

(compiled from various sources)

In summer, ice from Foxe Basin may occasionally be blown into South Bay if a period of north winds is followed by an easterly.

Roes Welcome Sound - Occasionally in winter, during a period of prolonged calm the Sound may freeze across from Ell Bay to the mainland, but normally there is a lead approximately in mid-channel which is kept open by strong currents. An ice bridge may also form in the north from Beach Point to the east, but this is due to ice jams rather than freezing. During the summer ice may be encountered in the Sound at any time. This ice is brought in from Frozen Strait and kept on the move by currents. After the beginning of September this ice may be a hundrance to navigation.

Wager Bay - Ice conditions in Wager Bay are not well known. Freeze-up probably commences about mid-October and by November the Bay is frozen over. Throughout the winter the narrows remain ice-free as a result of tides and currents. Likewise, open water is maintained at the reversing rapids near the head of the Bay. Break-up commences in early July, and spreads from the narrows to the head of the Bay. During summer the Bay is ice-free.

Repulse Bay - Generally, freeze-up in Repulse Bay commences a little earlier than in South Bay, and break-up a little later. Strong north winds are required to blow the ice out of the Bay, but after it has gone there is always the possibility that the Bay will be blocked again by ice brought in from Frozen Strait. This is particularly true in the late summer, and in recent years supply ships have attempted to reach Repulse too late in the season.

Table III

Dates of ice leaving Repulse Bay

1847 - Aug. 10
1854 - Aug. 4
1867 - July 15
1952 - Aug. 12
1961 - July 22

(compiled from various sources)

Frozen Strait - Because of strong currents Frozen Strait rarely freezes over in the winter time, but there is usually a heavy concentration of ice brought in from outside. This concentration may continue into the summer and make the Strait difficult to navigate.

Comer Strait - Being very narrow, this Strait is easily blocked by ice. During the Area Survey ice prevented passage of the Strait on July 22nd, but no ice was encountered on July 31st. The Strait is navigable by small craft drawing not more than 5 feet if they hold to the eastern shore.

Duke of York Bay - Conditions are very variable in this Bay. In some years it may be clear of ice by mid-July and remain ice-free until freeze-up. In other years the ice may break up but remain in the Bay, or ice may be brought in from the Foxe Basin.

Foxe Channel Coast, Southampton Island - This is a very difficult coast from the point of view of navigation. South setting currents bring heavy ice down the coast at all times of the year. In summer, Eskimos are reluctant to attempt passage of the coast in small boats as there is always the danger that east winds will push ice right up against the shore. The "Ice Atlas" indicates that least ice is to be expected here during September and October, but during these months storminess tends to increase and make navigation difficult. Bird (1953) reported that the residents of the Duke of the York Bay area used to make the passage about once every two or three years. It was, however, a slow and difficult journey.

East Bay - This Bay is reported to be a good area for seals and is usually free if ice during the summer. However, east winds are liable to bring ice into the Bay and small boats rarely enter for this reason.

It will be seen from the foregoing that except in the South Bay area ice conditions make navigation and regular shipping schedules very difficult. The Roes Welcome passage to Repulse is probably better than the Foxe Channel coast, but in Repulse Bay itself there is the ever present danger that a ship will be locked in ice brought in from Frozen Strait. For small boats the Roes Welcome passage to Duke of York Bay is probably better than the Foxe Channel route but is about 100 miles longer.

References and Sources for Chapter I

Canada, Department of Transport, Climate of the Canadian Arctic Archipelago, Toronto, 1951.

---------, Defence Research Board, Ice Atlas of Arctic Canada.

Pilot of Arctic Canada, Vol. II, Queen's Printer, Ottawa, 1959.

Bird, J.B. "Southampton Island". Canada Dept. of Mines & Technical Surveys, Geog. Branch Mem. No. 1, Ottawa, 1953.

Sim, V.W., "A preliminary account of late 'Wisconsin' glaciation in Melville Peninsula, N.W.T." Canadian Geographer No. 17, Nov. 1960.

Dunbar, M. and Greenaway, K.R., "Arctic Canada from the Air" Queen's Printer, Ottawa, 1956.

Mathiassen, T., Contributions to the Geography of Baffin Land and Melville Peninsula; Rept. 5th. Thule Exp., vol. 1, No. 3, Copenhagen, 1931.

-------- Contributions to the Physiography of Southampton Island; ibid, vol.1,No.2

P. 1 - A point on the west coast of Southampton at low tide.

P. 2 - Typical view of south coast of Wager Bay (looking east).

P. 3 - Low tide at mouth of Brown R., western end of Wager Bay.

Middle reaches of unnamed river entering Wager Bay from the north.

CHAPTER II

POPULATION

(1) White population.

Although white people constitute about one-fifth of the Island's population they are not a major focus of attention in this study. From time to time reference will be made to them and the institutions they represent and it is convenient therefore to describe briefly here their place in the human scene.

The earliest economic contact between Eskimos of the area and whites was made at the end of the last century. Whalers brought Aivilik Eskimos from the Wager-Repulse Bay area to the Island and had seasonal contact with them thereafter until the whaling industry was abandoned. In 1924, the Hudson's Bay Company established a post at Seal Point at the head of South Bay, the locality now known as Coral Harbour. The Company brought with them Okomiut Eskimos from the eastern Arctic. By 1927, the Anglican and Roman Catholic Churches had established missions close to the trading post. Until 1940 these three institutions were the major contact which the Eskimos had with the white man's culture.

During World War II, an airstrip was built by Americans a few miles inland from Munn Bay. This airstrip was staffed by allied forces during the war period, but the number of servicemen involved is not known. In 1943, the Canada Department of Transport set up at the airstrip a weather station which has been in operation ever since.

In 1950, the first Federal school teacher was appointed to a newly-built school at Coral Harbour, and his wife, a registered nurse, catered to the Eskimo community's medical needs. This teacher served for four years, the next teacher for two years, and a new teacher has been appointed each year since 1956.

In 1959, the first Northern Service Officer (a title subsequently changed to Area Administrator) was appointed to Coral Harbour by the Department of Northern Affairs and National Resources. The present Area Administrator took up his duties in 1960, and in 1961 a technician was appointed to take charge of the D.N.A.* equipment.

In summary, the present white population is as follows:

Government of Canada.

D.O.T. - About 30 men (without families) at airstrip.

---

* For convenience the following abbreviations will be used in this study: D.N.A. for Department of Northern Affairs and National Resources. D.O.T. for Dept. of Transport. H.B. Co. for Hudson's Bay Company. C.W.S. for Canadian Wildlife Service. F.R.B. for Fisheries Research Board.

D.N.A. - 1 Area Administrator with Eskimo wife and family.
- 1 Technician with wife and family.
- 2 Teachers with wives and families.

H. B. Co. - 1 Post manager with wife and family.
- 1 Assistant.

Roman Catholic Mission - 1 Priest.

All these with the exception of the D.O.T. personnel are based in Coral Harbour.

There is a possibility that an additional Area Administrator will be appointed within a few years; and a nursing station is to be built which will presumably be staffed with a white nurse.

These people have dealings with the Eskimo community, dealings which vary in intensity and formality according to the relationship which exists between the Eskimo and the white persons concerned. This is discussed more fully in a later section (see p.27). In certain circumstances the white population influences directly or indirectly the exploitation of the resources of the Island.

(2) Eskimo population

With the exception of five individuals the Eskimo population of the Island, numbering 209, is grouped in 45 families. The population is distributed in four settlements: Coral Harbour, Snafu, Munn Bay, and Kirchoffer River. The latter are more in the nature of camps than true settlements, and the Kirchoffer settlement comprises only one family.

The salient features of the population structure, grouping, and geographical distribution are shown in Table IV. (See also Fig. 4 p. 14).

TABLE IV - GEOGRAPHICAL DISTRIBUTION OF POPULATION WINTER 1960-61.

	CORAL HARBOUR	SNAFU	MUNN BAY	KIRCHOFFER	TOTAL
Population	109	65	22	13	209
Aivilik	66	26	-	-	92
Okomiut	43	39	22	13	117
Productive population*					
Males (over 16 yrs. of age)	29	17	7	4	57
Females (" " " " ")	25	13	6	4	48
Adults (16+).....	54	30	13	8	105
Children (15-).....	55	35	9	5	104

* Older women are included in this category on the basis of contributions to the overall welfare of the household such as sewing etc. Includes also two men over 65 only partly productive.

This table refers to the situation which prevailed during the latter part of the winter of 1960-61. In view of the fact that the population is relatively mobile it should not be interpreted as showing a rigid situation. Details of the household occupance are presented in Appendix A.

For the purposes of discussion it is convenient to divide the subject matter into the five major headings:

i) Settlements.
ii) Ethnic and religious groups.
iii) Population structure.
iv) Education.
v) The social framework.

i) Settlements.

The locations of the settlements listed in Table IV are shown on the accompanying sketch map (Fig.4). It will be noticed that the settlements are all situated within a few hours' journey of Coral Harbour. This has not always been the case. Fig.5 shows the distribution of the population in 1951 as described by Bird (1953). The settlements at Duke of York Bay, Seahorse Point, and Gibbons Point have all been abandoned within the last ten years in favour of Coral Harbour area or places off the Island altogether. The occupants of the Gibbons Point camp went to Chesterfield. The previous residents of the Duke of York Bay area have moved either to Coral Harbour or the mainland, many going to Rankin Inlet.

The major reason for the abandonment of these outlying settlements has been of course attractions elsewhere. Several factors have encouraged concentration in the Coral Harbour area:

1) The H. B. Co. store.
2) The School.
3) The opportunity for casual employment.
4) The churches.
5) The D.N.A. administration.

It is difficult to accord precedence to any one of these factors. The store would appear to exert a big pull, on the other hand, the Duke of York Bay area was inhabited for many years during which there was no store. The other four factors listed above are strong drawing cards, and the opportunity for casual employment is perhaps one of the strongest. As will be seen later the D.O.T. establishment provides a considerable amount of casual labour income to the residents of Snafu. Both the Roman Catholic and the Anglican churches are in the Coral Harbour settlement, as is the school. Whether the churches or the school exert the greater pull is not clear but probably the school is a greater attraction than the churches. At present the R.C. population tends to be concentrated in the Coral Harbour settlement, the seat of the R.C. priest. There is no resident Anglican minister at the present time but it is expected that one will be appointed within the next few years.

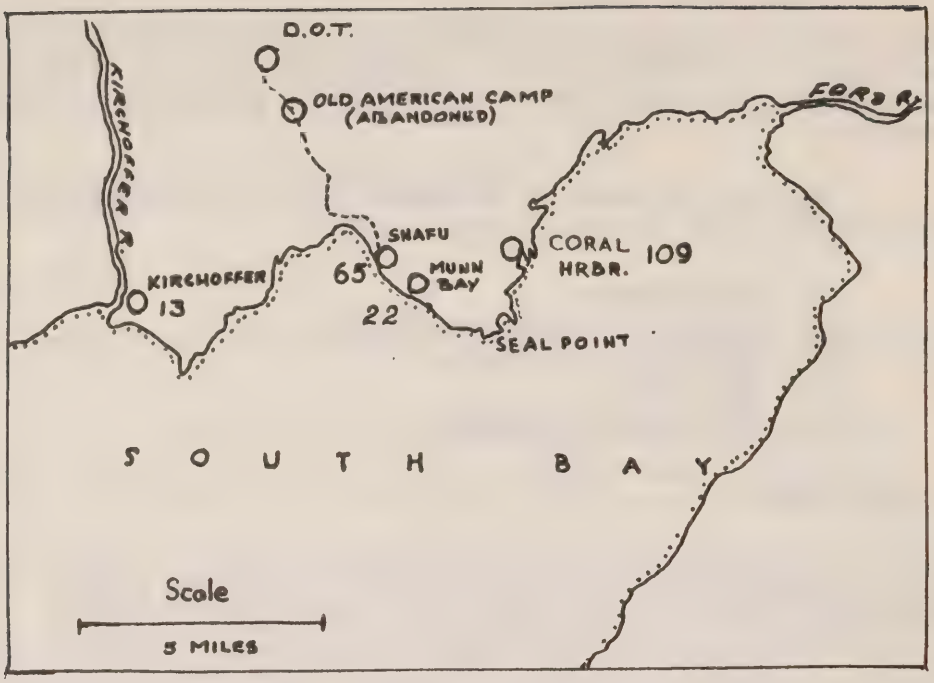


Fig. 4

Present-day settlements of Eskimo population, 1961.

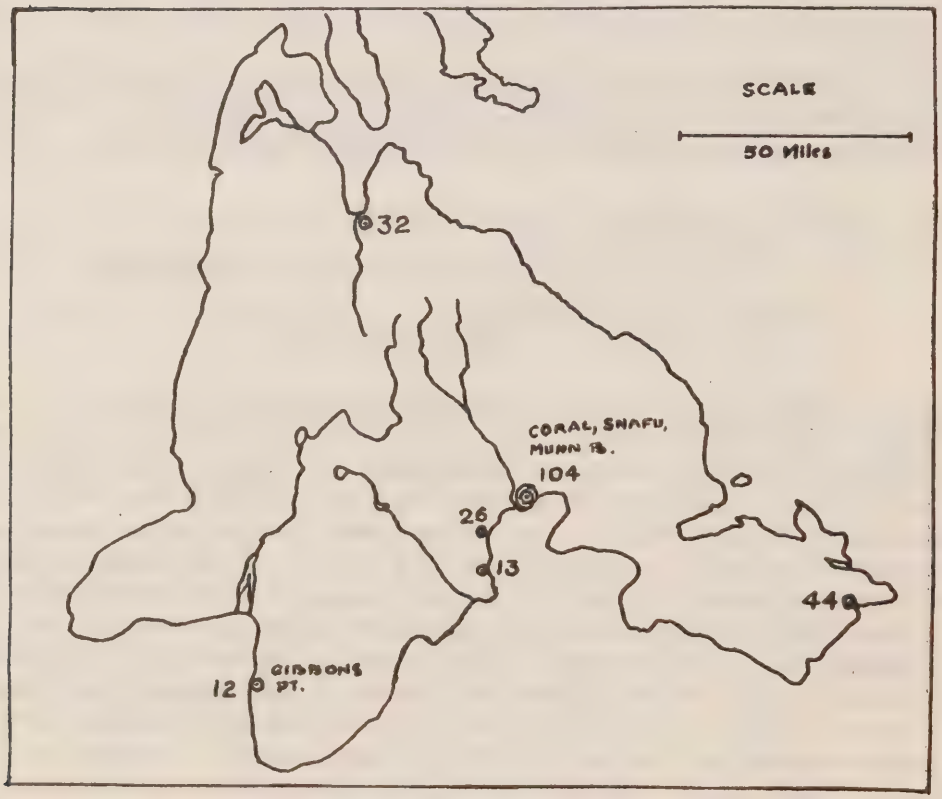


Fig. 5

Eskimo settlements in 1951 (after Bird, 1953).

When such an appointment is made the incumbent will probably endeavour to gather the Anglican adherents within the Coral Harbour settlement, thus further concentrating the population.*

With regard to the physical nature and condition of the settlements and housing a detailed tabulated account is given in Appendix A. The following remarks are intended to convey the general picture.

The settlements have an amorphous character, and the local administration does the best it can to cope with sanitation and water supply problems under difficult physical and social conditions. In Coral Harbour, most of the buildings are placed near the edge of the narrow ridge on which the Community has been built. In Snafu and Munn Bay, the dwellings are sited at random along the westward facing slope overlooking the bay. An economic and efficient system of sanitary services would no doubt require some re-arrangement in the layout. In Coral Harbour there is a fairly clear-cut division of the land between the H. B. Co., the churches and the D.N.A. administration - see Fig 6.

Apart from the fact that the Local Administrator has endeavoured to encourage the use of plastic containers, toilet facilities are nil and sanitary practices are poor - in fact insanitary. Urination takes place outside the house, often against the walls of the house or in close proximity to it. Defecation takes place inside the house, small cans being used which are emptied outside but often very close to the house despite exhortations by the administration to dump such waste in the sea.

During the summer drinking water is hauled in buckets from neighbouring lakes and boiled prior to drinking. In winter, ice is taken from the bay.

The general condition of housing is poor. In Coral Harbour, 5 houses have been built from scrap material and 9 are built of lumber and plywood. In Snafu, there are 3 houses of scrap material, and 4 simple frame structures. One is a Nissen hut purchased from D.O.T. The dwellings at Munn Bay and Kirchoffer are of scrap material. In Coral Harbour of the 9 lumber and plywood houses, three have been constructed by D.N.A., three have been built by the Eskimos themselves, and three have been built with the financial and technical assistance of the R.C. priest. Of some interest is the fact that D.N.A. material was supplied for the construction of rigid frame houses, a prototype of which was constructed by D.N.A. as an example. The Eskimos considered this design a waste of material and used the traditional frame structure. (See photos page 17).

The traditional frame structure has a porch and windows, both of which have been lacking in the D.N.A. built houses in Coral Harbour. As the Eskimos indulge in a good deal of "neighbouring", a porch is essential to conserve heat. In a few cases some grass has been used to provide insulation in the Eskimo-built shacks and houses but otherwise

* This statement is based on information received from N. Wilford, Anglican theology student who was based on the Island during the summer of 1961.

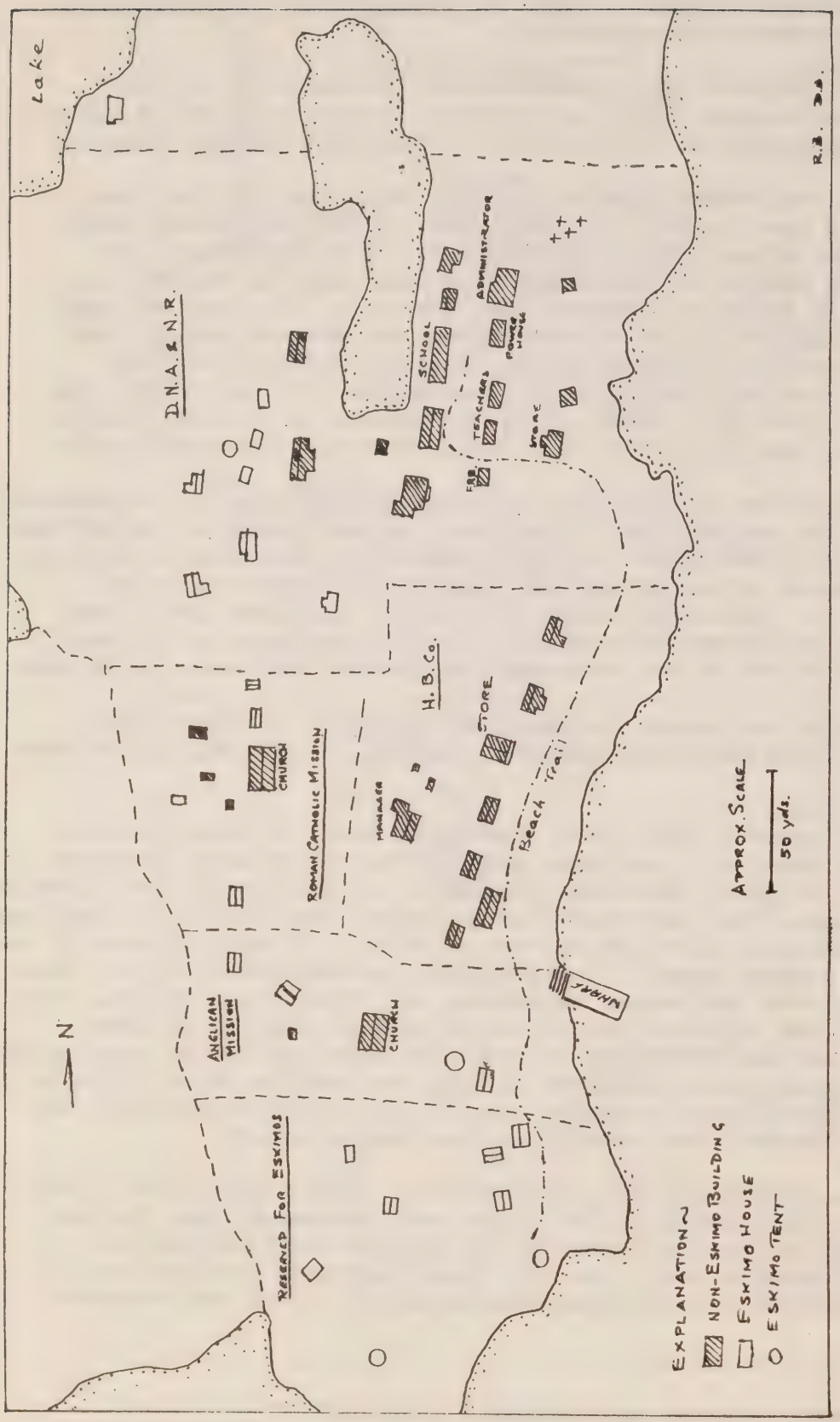


Fig. 6 Present layout of Coral Harbour

P. 4 - Eskimo house at Coral Harbour, Roman Catholic Mission in background.

P. 5 - Eskimo houses at Coral Harbour.

insulation is completely lacking. Only the three houses constructed by D.N.A. are properly insulated. Likewise these are the only three houses which are painted.

Oil, wood, coal, and marine oil is used for heating and cooking, while naptha is used for illumination and cooking. No households use whale or seal oil exclusively. The wood used for fuel is scrap lumber obtained from the old American camp and D.O.T. This supply is coming to an end and within the next two years other fuels will have to be used. Coal at $5.00 per bag is expensive but is apparently the preferred fuel when fox skins are to be dried.

In summary, it may be said that the general condition of housing is inadequate or poor, when judged by the following criteria: lack of water and toilet facilities, absence of insulation, lack of wooden floors[1], and lack of privacy particularly during the winter when overcrowding is common. Overcrowding is less of a problem during the summer when many of the people move into tents and often move out of the settlements to fishing grounds along the coast.

The need for community planning and services is evident, but more so is the need for the development of community spirit which will find expression in greater Eskimo participation in community management and planning. The need for this is, in turn, exceeded by the need for education in the broad sense which would make the participation practical and possible. In the near future, any community planning will have to be initiated from above, albeit with Eskimo agreement and co-operation.

ii) Ethnic religious groups.

An important feature of the population is its division into two ethnic groups, the Okomiut and Aivilik. This division is accentuated by strict separation of kinship and a parallel religious division.

The Okomiuts were brought to the Island by the Hudson's Bay Company when the company transferred its post from Coats Island to Seal Point in 1924. The Okomiuts are of eastern Arctic origin, many coming from Baffin Island and northern Quebec. The Aivilik, on the other hand, are of western Arctic origin, mainly from the northern Keewatin mainland and Melville Peninsula. They were brought to the Island by whalers at the beginning of this century. The older people of the population are, therefore, immigrants to the Island while the younger generations are indigenous.[2] Table V shows the origin of the population by place of birth.

---

1 For a study of the inadequacies of Eskimo housing generally and which emphasises the need for adequate flooring see: "Eskimo Mortality and Housing", Department of Northern Affairs & National Resources, Ottawa, 1958.

2 The original inhabitants of the Island, the Sadlermiut, became extinct in 1902. They are thought to have succumbed to a typhoid epidemic.

TABLE V

ORIGIN OF POPULATION BY PLACE OF BIRTH:

A. Southampton Island:	Southampton Island		129
B. Western Origin:	Chesterfield Inlet	1	
	Marble Island	1	
	Igloolik	1	
	Lyon Inlet	2	
	Repulse Bay	1	
	Wager Bay	3	
	Cape Fullerton	1	
	Arctic Bay	1	
		11	
C. Eastern Origin:	Sugluk	6	
	Frobisher Bay	4	
	Lake Harbour	7	
	Port Burwell	13	
	Nottingham Island	7	
	Wakeham Bay	1	
	Resolution Island	3	
	George's River	5	
	Ottawa Islands	1	
	Payne Bay	1	
	Amadjuak	2	
	Cape Dorset	2	
	Wolstenholme	1	
		53	
D. Other:	Clearwater Lake	2	
	Winnipeg	1	
	Le Pas	1	
	Dewline	1	
		5	
E. Not Mentioned:*		11	209

From this table it will be seen that about 12% of the Aivilik have been born off the Island whereas a much larger proportion of the Okomiut, about 45%, were born elsewhere. This probably reflects the more recent immigration of the Okomiut to the Island.

The most interesting feature of these two ethnic groups is the fact that in spite of over 35 years of contact they have maintained a strict separation of kinship. There has been only one case of

* Of the 11 people under E, probably 5 have been born on Southampton Island, 4 trace their origin to the West and 2 to the East.

marriage between members of the two groups. This occurred when an Aivilik man married a girl who had been born an Okomiut but was adopted by an Aivilik family. To say that the two groups have had 35 years of contact is perhaps to overstate the case. The contact has not been close in the past as it is today, because the residents of the Duke of York Bay area were largely, if not entirely, Aiviliks and their contact with the Okomiut would be limited to those occasions when they went to Coral Harbour to trade.

There is a religious division which accentuates the ethnic division. The creation of the trading post in 1924 was followed by the building of a Roman Catholic mission in 1925 and the Anglican mission in 1927. Church membership today is shown in Table VI.

TABLE VI

Church Membership

	R.C.	C. of E.	Mixed	Total
Members	90	119	-	209
Aivilik	79	13		92
Okomiut	11	106		117
Households	13	23	9	45
Individuals		5		

This table shows clearly that each ethnic group tends to favour a separate church. This situation is modified by the presence of mixed households. In two of the mixed households the head of the household is Anglican whereas the wife and children are Roman Catholic. In the other seven households both parents are Anglican but one or more children are Roman Catholic. These mixed households have undoubtedly arisen from the fact that there has been no resident Anglican minister for some years - a matter of some concern to the local Anglicans. In the absence of an Anglican minister some of the children of Anglican parents have been baptised in the R.C. faith. It is also possible that some families consider it useful to have a foot in each camp, so to speak. How deeply the religious division cuts into the community fabric is not clear. Information obtained during the Survey suggests that there is, at times, a certain degree of animosity between the two groups.

The ethnic division is more clear-cut. The Aiviliks tend to regard themselves as superior to the Okomiuts. Sutton (1932) described the Aivilik as "pleasant, comparatively cleanly people" (p. 42), and preferred them to the Okomiut as companions. Today, one gets the impression that the Okomiut are less enterprising than the Aivilik; and certainly the Okomiut have less material wealth. Undoubtedly, they suffer from lack of leadership. The Aiviliks do have the spiritual leadership of the Roman Catholic priest, whereas the only spiritual leadership among the Okomiut resides in the Eskimo lay catechist.

Although there is no single leader of the Aiviliks as a group, their material wealth attests to some extent to their initiative and enterprise. Thus, the three Eskimo-owned Peterheads and two of the four whaleboats belong to members of the Aivilik group. This gives the Aiviliks a great advantage over the Okomiut in terms of resource harvesting, and may give them reasonable grounds for feeling superior to the Okomiut. If the Okomiut harbour any feelings of dislike for the Aiviliks, these may well spring from envy.

One final point in connection with the two groups is worth noting - non-Eskimo characteristics such as blue eyes, much facial hair, balding, and aquiline features are observed to occur more frequently among the Aivilik than the Okomiut.

iii) Population structure.

Table VII shows the Eskimo population of the Island at various times.

TABLE VII

Year	Population	Source
1930	138	Sutton 1932 (see References)
1931	143	Canada's Eastern Arctic, Dept. of Interior, Ottawa 1934.
1934	160	Manning 1936 (see References)
1941	139	1941 Census.
1943-4	150 appr.	Mr. C. Russell, personal communication.
1951	231	1951 Census.
1953	230	Unpublished data, Fur Export Records, Territorial Division, D.N.A.
1955-6	258	1956 Census.
1959	215	Van Stone 1959 (see References)
1961	209	Area Economic Survey.

These figures suggest that there was an upward trend in the population until the late 1930's when there was a decrease. After the war an upward trend set in again, reaching a peak in 1955-6, a time of intense construction activity. Since then there appears to have been a decreasing trend. The figures, however, do not show the complete picture. According to the table the population has decreased by 22 during the period 1951-61. Vital statistics available in Coral Harbour snow that over the same period there was an excess of live births over deaths of 59 (see Appendix B), therefore, we must assume an emigration off the Island of about 80 individuals. This has indeed been the case. About six or seven years ago, the "entire camp" from Gibbons Point moved over to Eskimo Point on Keewatin mainland*. Between 1957 and 1959, twelve men and their families

* Copeland, D.M. "Remember Nurse" The Ryerson Press, 1960, p. 241.

left the Island to work on the Dew Line, and in 1959 at least 32 individuals went to Churchill or Rankin Inlet.

TABLE VIII

ESKIMO POPULATION BY AGE GROUP AND SEX

AGE GROUP:	M.	F.	T.	POPULATION PYRAMID
70 - 74	1	-	1	X-
65 - 69	1	-	1	X-
60 - 64	1	3	4	X-XXX
55 - 59	-	1	1	-X
50 - 54	2	2	4	XX-XX
45 - 49	5	4	9	XXXXX-XXXX
40 - 44	3	7	10	XXX-XXXXXXX
35 - 39	7	4	11	XXXXXXX-XXXX
30 - 34	8	2	10	XXXXXXXX-XX
25 - 29	8	9	17	XXXXXXXX-XXXXXXXXX
20 - 24	11	9	20	XXXXXXXXXXX-XXXXXXXXX
15 - 19	15	9	24	XXXXXXXXXXXXXXX-XXXXXXXXX
10 - 14	11	19	30	XXXXXXXXXXX-XXXXXXXXXXXXXXXXXX
5 - 9	11	17	28	XXXXXXXXXXX-XXXXXXXXXXXXXXXX
0 - 4	20	19	39	XXXXXXXXXXXXXXXXXXX-XXXXXXXXXXXXXXXXXX

Males Females

(Based on Southampton Island, NWT, Population & Statistics 1961)

There is no reason to suppose that Islanders will not continue to go elsewhere in search of greater opportunities, but opportunities in the Hudson Bay area are very limited. In fact, if the Rankin nickel mine closes we may expect that some of the Islanders who went there will return to Southampton, and quite possibly other people now at Rankin may wish to give the Island a trial as a potential home. As will be seen later the resources of the Island should be able to support a substantially larger population.

Tables VIII and IX show the present population structure and pyramids in terms of age, sex, and ethnic groups. The size of population is too small to permit a definite analysis and only one or two general comments are possible. The population as a whole has a fairly broad base but there is a shortage of females in age groups above 30 and an excess in the age groups below 14. The Aivilik pyramid has a broader base than that of the Okomiut, suggesting a greater rate of increase among the former. The narrow base of the Okomiut pyramid may be due to the shortage of females in the 30-49 and 15-19 age groups. Also, the broader base of the Aivilik pyramid may be a reflection of their greater material wealth although this is difficult to substantiate. Generally speaking, the data cannot be used to analyse population trends as a few births or deaths could easily change the shape of the pyramids, and an influx of people e.g. from Rankin could alter them radically.

TABLE IX

ETHNIC GROUPS.

Populations by Age Group and Sex.

AGE GROUP:	M.	F.	T.	Males - Females	M.	F.	T.	Males - Females
70 - 74	1	-	1	X-	-	-	-	-
65 - 69	-	-	-	-	1	-	1	X-
60 - 64	1	1	2	X-X	-	2	2	-XX
55 - 59	-	1	1	-X	-	-	-	-
50 - 54	-	-	-	-	2	2	4	XX-XX
45 - 49	2	2	4	XX-XX	3	2	5	XXX-XX
40 - 44	1	3	4	X-XXX	2	4	6	XX-XXXX
35 - 39	2	2	4	XX-XX	5	2	7	XXXXX-XX
30 - 34	2	1	3	XX-X	6	1	7	XXXXXX-X
25 - 29	1	2	3	X-XX	7	7	14	XXXXXXX-XXXXXXX
20 - 24	4	2	6	XXXX-XX	7	7	14	XXXXXXX-XXXXXXX
15 - 19	8	6	14	XXXXXXXX-XXXXXX	7	3	10	XXXXXXX-XXX
10 - 14	6	8	14	XXXXXX-XXXXXXXX	5	11	16	XXXXX-XXXXXXXXXX
5 - 9	6	9	15	XXXXXX-XXXXXXXXX	5	8	13	XXXXX-XXXXXXXX
0 - 44	11	10	21	XXXXXXXXXX-XXXXXXXXX	9	9	18	XXXXXXXXX-XXXXXXXXX
			92				117	

A I V I L I K.

O K O M I U T.

iv) Education

Facilities for school education have been provided in Coral Harbour by the Federal Government since 1950. Unfortunately, the educational attainments of the individuals in the age groups up to 25 years fall short of the potential. A person who is now 16 years of age could have had 10 years of schooling, assuming he started school at age 5 and left at age 15 but it is not possible to compare his educational attainments with those of a person of the same age down south who has attended school for the same period (and assuming both are reasonably intelligent).

As in the south, a system of grades is employed but at Coral pupils are passed from one grade into another on the basis of their ability to pass certain comprehension tests in English. The grades which have been established at Coral are not to be compared directly with similar grades in the south - a grade 5 pupil in the south will have a higher level of education (by southern standards) than a grade 5 pupil at Coral. In addition there is an extra lower grade at Coral - grade "B" - which is in effect a pre-school course designed to give the pupil a basic comprehension of very simple English. The grades at Coral start with B and lead in to 1, 2, 3, and so on. Theoretically, a person who is now 15 years of age and who has attended school since the age of six might be expected to have achieved the local grade 9 level. Survey records show that of the 7 members of the 15-year-old age group two have attained grade 5, one grade 4, one grade "B", and one has not passed any English comprehension test at all. A similar state of affairs exists within the other age groups. Most members of the over-school-age groups have not, of course, been able to benefit from the full ten years of education. For example a person now 25 years of age will have spent only one or two years at school and therefore not have progressed beyond grade "B" or grade 1.

Briefly, ten years of schooling has not resulted in what might be considered an appropriate level of educational attainment among the younger members of the community. However, southern standards and expectations should not be applied to the north without qualification and modification. When attempting to assess the results of ten years of schooling in Coral we should perhaps bear in mind the following:

(1) Only in recent years have all children of school age attended school. Previously geographical dispersion of the population militated against full attendance. The present system of boarding school children from outlying camps in Coral Harbour has made it physically possible for every child of school age to attend.

(2) The turnover of school teachers has been high, eight having come and gone since 1950. This is unfortunate as the need for continuity is perhaps greater in the north than in the south.

(3) Instruction takes place in English and children are graded according to their ability in English - a foreign language to them. They do not have, therefore, the comprehension which a five year old in the south will have as a result of

assimilation and learning in his very early years. To this must be added the fact that English is conceptually different from Eskimo. The argument that a child can "pick up" a foreign language fairly readily is perhaps not applicable here as the Eskimo children are exposed to English only during school hours. (It is reported from other areas in the Arctic that Eskimo children sometimes chatter in English among themselves after school hours.)

(4) The question of incentive is perhaps very important in the present context. The advantages of schooling have not been very evident to the Islanders - it has not helped them to catch more seals or trap more foxes, ability to speak English has not opened the door to regular wage employment or given them a greater sense of security. In short, where we in the south generally recognize that certain rewards accrue to people with certain standards of education, similar rewards cannot at present be seen by the Eskimos in such a way as to spur them to greater effort.

(5) There are no doubt other contributory causes which involve more complicated considerations such as: should fundamental education take place in the vernacular, English being added as a second language at a later stage? Is the curriculum suited to the needs and understanding of Eskimo children? Would the teachers benefit from a longer orientation course with Eskimology as a major subject? These and other questions belong to the field of education and it would be presumptious to discuss them here.

Other educational opportunities, of a vocational nature, have been available in recent years. Two of the local young men have attended engineering training course at Barriefield and Leduc. Both of these men are now in charge of Peterhead engines and it is unfortunate to have to report that the maintenance of these engines does not bear witness to the success of the courses as far as these two men were concerned.

This is not necessarily a reflection on the courses which the men attended which were probably of very high quality. It can probably be attributed to the fact that not only do these men have a low standard of education but they do not have the background of a technological society which aids the understanding and appreciation of the principles involved. Also, it is doubtful if their instructors were fully aware of the social and technological conditions to which their pupils would be returning. Furthermore, there has been no follow-through on the courses, the trainees have returned to their settlements and attempted to apply what they have learned without any further advice or guidance. While some of them may speak English quite well (this was true in the case of the two men mentioned) they are probably less proficient in their understanding of written English

and therefore they are unable to make use of the engine handbooks and maintenance manuals.* It may also be that the system of selecting trainees has been faulty - the young man in charge of the best maintained Peterhead engine on the Island has had no formal training in mechanics.

With regard to human skills and capabilities generally, observation and information suggests that many skills and abilities are falling into desuetude. This applies to both men and women. Few young men are now skilled in the arts of furnishing nets, and many of the younger women are losing or not acquiring skills as needleworkers. The activities of an Arctic economy are such that these skills should be maintained, if not strengthened, a matter which calls for serious consideration. The problems of fundamental education and vocational training in the north require sustained and penetrating study and appraisal since they represent the keystones in the future social and economic development of the Eskimos as Canadian citizens - merely to state that the Eskimos have citizen status does not establish the facts of social and economic equality and opportunity. The courses of instruction should perhaps take into account the fact that many of the students and trainees will be living off the land for a long time to come. In addition to instruction in welding and carpentry, instruction in other activities such as net-making, sailing, gun handling, and meat preservation, might well be fruitful. It is important to remember that in many cases children have to leave their parents to go to school and consequently miss the opportunity for training in many of the winter activities, training which would normally be given by their parents. There is a danger therefore that they will become partially proficient in English and arithmetic, but not proficient enough to be competitive with the white man on the labour market, and at the same time be poorly equipped to make a living from traditional activities.

It would be unrealistic however, to interpret results from the standpoint of southern educational expectations. We cannot expect ten years of schooling to result in one hundred per cent success; both the teachers and the pupils require experience. Failure to achieve anticipated results need not be treated with undue pessimism but may be regarded as an indicator of where to make changes, which, if appropriate to the socio-economic environment in which the educational system is supposed to operate, will doubtless be for the better.

---

* A useful suggestion in this connection has been made by Mr. W. Shields, D.N.A. Project Officer at Richmond Gulf. He has suggested that an arrangement might be made whereby some of the instructors in charge of these courses could spend a summer in the north observing conditions and problems first-hand. This experience might help them to devise more effective courses. A difficulty with this suggestion is that the instructors are army personnel and not free to move around at random.

v) The social framework - discussion.

It will be within the social framework described in the foregoing sections that any community development will have to take place in the near future. Before going on to discuss the economic activities of the area, there are one or two points regarding the social aspects which warrant further consideration.

The general nature of the ethnic and religious divisions has already been noted. The depth of these divisions is difficult to gauge and it would be unwise to assert that they constitute real obstacles to future developments which involve total community participation. But it is necessary to be aware of them and be prepared to seek ways and means of minimizing their potential effectiveness as bases for friction. If the material wealth of the community can be raised the Okomiuts may have less grounds for feeling envious of the Aivilik, and if community standards of living and economic enterprise can be raised, the Aiviliks may have less inclination to regard the Okomuit as inferior. The religious division requires careful handling. This is likely to be always a source of potential conflict depending on the sectarian attitudes fostered by the preachers. On the other hand, the Eskimos may be intelligent enough not to allow religion to become a source of friction among themselves. The few mixed households may be indicative of a feeling of this nature. The appointment of an Anglican minister could lend an element of leadership and cohesion to the Okomiut group and thus promote a friendly rivalry between the groups provided that community enterprise for community benefit, on non-sectarian grounds, were the recognized paramount objective.

Within the community at the present time, leadership is not vested in a few individuals who make, or lead in the process of making, large-scale group decisions. The most important unit is the household which may consist of one or more families. Within this unit there is usually one man who is regarded as the superior. Thus sons will tend to act in accordance with their father's wishes even if the son himself is married and has children. Outside the household unit the kinship ties are strong and there is a considerable amount of sharing goods and food within the kinship group. Thus food caches may be used by people who played no part in preparing them but who are considered entitled to use them. Foodstuffs appear to be passed fairly readily from one household to another, and a person whose credit in the store is in good standing may use his credit to buy goods for a friend whose credit may be temporarily in poor standing. Some items are, of course, regarded as personal property; fox pelts, for example, are strictly the property of the trapper who obtained them. Also, it appears that ideas inherent in the words "my" and "mine" are becoming increasingly important in Eskimo thinking.

While there is no single leader of the Eskimo community, there are some members of the community who are regarded with a high degree of respect by their fellows. Notably, ownership of a Peterhead or whaleboat confers higher status on a man, largely because possession of a large boat gives him independence and at the same time makes others dependent

upon him. Likewise, ownership of a house lends prestige to a man since others may be dependent upon him for shelter. Successful hunters and trappers generally have the respect of the community, since to be a good hunter is to be a good provider in the old Eskimo tradition, and to be a good trapper requires hard work and intelligence. The power and prestige of the local shaman is not clear. He is a Roman Catholic, and therefore, within the Catholic group he has much less influence than the priest - in fact it is reported that he is often at loggerheads with the latter. He has less material wealth than those Catholics who own Peterheads, and he is not renowned as a hunter or trapper. In sum, his influence is probably slight.

Perhaps the way in which a man has become successful may influence the other Eskimos' view of him. For example, some of those who are envious of Toomah, who traded his fox furs to Chesterfield in exchange for a Peterhead from the R.C. mission there, attribute his success to the help he has received from the Catholic priest. This may account in some measure for his success, but many more of his neighbours could be helped if they had the acumen to capitalize on the help.

Apparently no elevated status accrues to those who are regularly employed for wages. Only three Eskimos are so employed at the present time, one as a truck driver by D.O.T., one as a trainee clerk by the H.B.Co., and one as general maintenance man by D.N.A. Most of the Islanders perform casual work for wages at some time during the year, particularly during the summer shipping season. Those employed on year-round work are not accorded any special respect by their fellows.

Summing up, as far as group organization is concerned, the best organization occurs within the Roman Catholic group, and prestige, if not influence, belongs to the large boat owners and productive workers.

The relationship which exists between the white people and the Eskimo varies according to the institution which the particular white person represents, and is more or less self-evident. The H.B.Co. manager has formal relations with all the Eskimos and is in a position to wield considerable influence over them. The Catholic priest has the respect of most of the Eskimos, but is particularly influential within the Catholic group. D.N.A. personnel have formal relations with all the Eskimos (although the engineer probably has to deal with fewer Eskimos in his daily work). D.O.T., as an organization, has formal relations with many of the Eskimos, mainly the men, and more particularly the men of Snafu. Individuals from the D.O.T. establishment may, from time to time, have friendly relations with members of the Eskimo community.

It is impossible to say that any particular white person is more important to the Eskimos than any other in view of the underlying nature of the relationships involved - administrative, spiritual, commercial, and friendly. Also, there is a certain amount of overlapping. Thus the administration, the H.B.Co., and the church all perform welfare

functions of different kinds. The administration is concerned with material and social welfare; the Company manager attends to certain rudimentary medical needs; and the Priest is interested in the spiritual, social, and material welfare of his followers.

The chart on the following page (Fig.7) embodies an attempt to summarize in a schematic way some of the topics which have been discussed in this section.

It is necessary to return now to the matter of leadership, prestige, and status within the Eskimo community itself. This is important in connection with the possibility of moving people to the Island from Rankin if the Rankin mine closes down. As will be seen later the resources of the Island are capable of sustaining a larger population, but will the Islanders welcome additional population? This question was put to many of them during the Survey, and on balance, the reaction was positive. There was no negative reaction, but some of those with whom the matter was discussed appeared to be quite uninterested. We cannot be sure that the reaction, positive or otherwise, was really reliable since we cannot be sure that all the people who were questioned on this point were fully aware of all the implications of an influx of additional population. It is useful, therefore, to ponder the question in the light of the various aspects of community life revealed in the foregoing discussion.

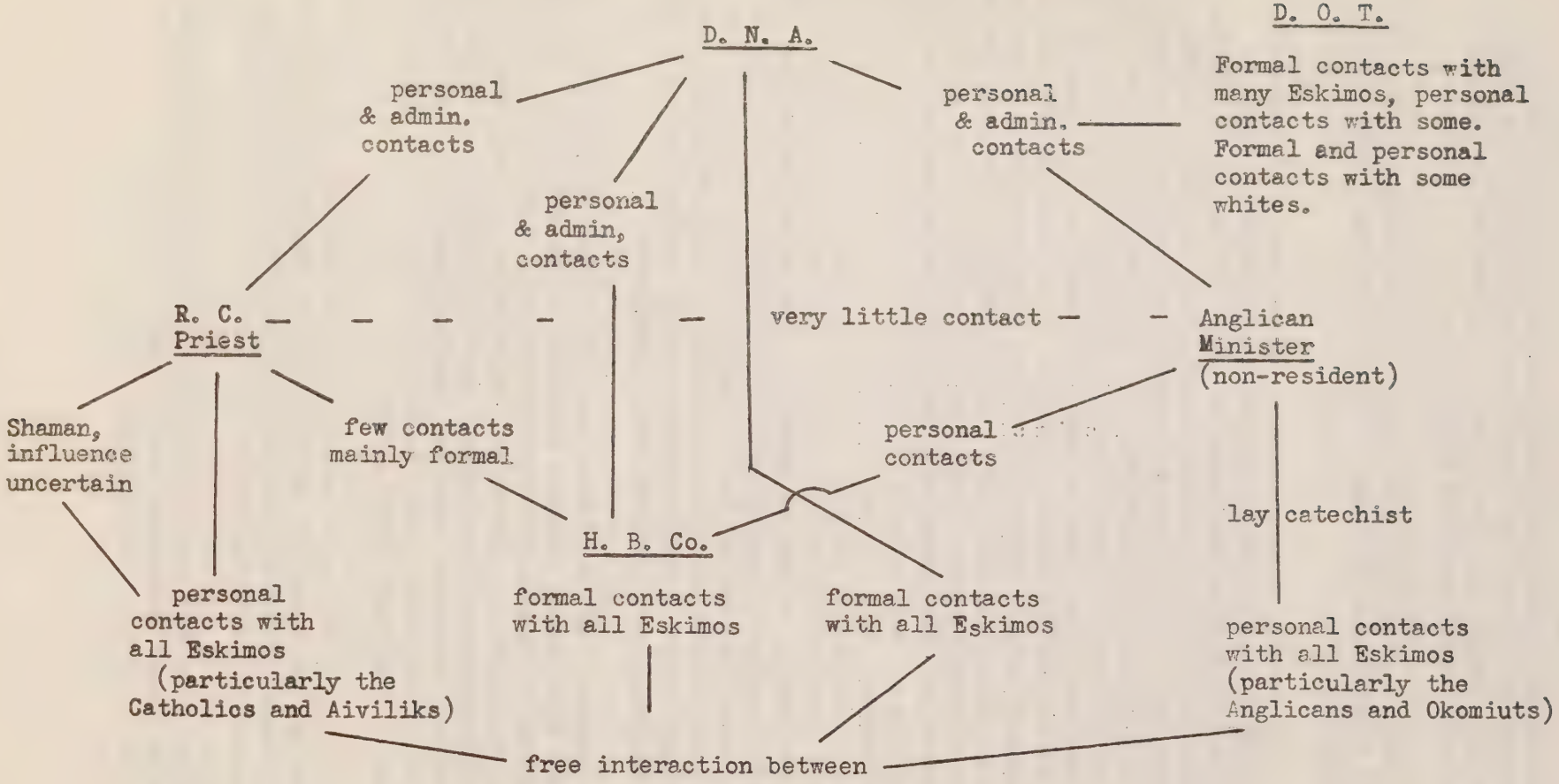
We may consider first those people who left Southampton to go to Rankin. These could, no doubt, return to the Island and settle down within their old kinship framework with no difficulty.* In so far as complete strangers to the Island are concerned, we may assume that they would tend to align themselves with the Islanders on a religious basis. Their future place in the Island's society would presumably be determined by their own enterprise, initiative, and friendliness.

The material wealth of the immigrants would be important. They would need, among other things, housing, boats, and dogs. If they do not have these, or do not have the savings with which to acquire them, they will inevitably have to depend on the Islanders or Government for help, and the Islanders could not afford much help without considerably straining their own resources. Perhaps the most important item is dogs. Without dogs the immigrants would be entirely dependent on others for their sustenance during their first winter.

The timing of the move would also be important. If the immigrants move to the Island in the spring they will be able to prepare themselves, at least partially, for the coming winter. But if they arrive in the late fall it will be too late to lay away any stores of

*We are ignoring here other aspects of a more problematic nature, such as the difficulty these people may have in settling down to their old way of life after a period of steady wage work.

Fig. 7 Schematic diagram of social framework.



country food.

It is evident, therefore, that the purely social problems which may attend the movement of people to the Island are only a part of a much larger problem. If the immigrants have few capital resources, or go to the Island too late to set up food stores the movement could give rise to serious discontent and strain.

Eskimo summer tent at Coral Harbour.

Peterheads careened at Coral Harbour. Boat on far right belongs to H. B. Co.

CHAPTER III

RESOURCES AND ECONOMIC ACTIVITIES

It is convenient to divide this subject matter into the following topics:

1) Natural renewable resources.
2) Food potential.
3) Money resources: i) Sources of income
ii) Expenditure
iii) Capital resources.

1) Natural renewable resources.

These consist of fox, bears, fowl, fish, seals, walruses, whales, and occasional narwhals. The degree of exploitation of these resources cannot, at the present time, be ascertained with mathematical accuracy. This is particularly true of fox, whales, narwhals, fish, and birdlife, whose population dynamics on the Island have not yet been studied on a large scale quantitative basis. Records of previous years' takes suggest that they are not overexploited, and in fact, in certain parts of the Island they are not exploited at all. Seals and walruses are the subjects of continuing study by the Fisheries Research Board. So far, F.R.B. results indicate that seals and walruses are not over-exploited but are being exploited at a rate which is close to the sustainable yield.

It is proposed to discuss these various resources in turn, dealing with harvesting, utilization, and the possible effects of additional human population. In what follows, it should be borne in mind that the detailed data which would facilitate estimation of the efficiency of exploitation are lacking. Accurate information on the amount of time, capital and other resources expended in harvesting is not available. Similarly, there is no detailed information on the disposal and utilization of the products of the harvest. The information which the Survey was able to gather on these points was, at best, a reasonable estimate, and at worst, a rough guess. The Eskimo themselves had usually only a vague notion of their total catches of various resources, amounts of money earned, and time spent at various tasks.

Fox. Fox trapping is the most important single activity on the Island both as a source of income and as an occupation. There are 48 trappers on the Island and starting on November 15, or very soon thereafter, they lay out their traps in long lines traversing the Island, two trappers usually travelling in the company. The number of traps per trapper averages about 85, ranging from less than a dozen in the case of boys just starting trapping, to over 300 in the case of older men. The general pattern of the traplines is shown in fig. 8 . The lines shown on the map


Southampton Island
SHOWING
LOCATIONS OF TRAPLINES
TRAPLINES
Scale~
MILES
VANSITTART ISLAND
WHITE ISLAND
WELCOME
ROES
HUDSON STRAIT
HUDSON BAY
COATS ISLAND
BELL PEN.
RECORD HARBOUR
South Bay
Native Bay
East Bay
Ell Bay
BAY OF GODS MERCY
CAPE LOW
CAPE SOUTHAMPTON
CAPE PRESTON
CAPE PEMBROKE
WALRUS ISLAND
Evans Strait
Geographical Branch, Dept. of Mines & Res.

Fig. 8

indicate what are best described as linear areas over which the trappers work. Traps are set not at equal intervals along the lines, but in those places which, according to the trapper's judgement, are likely to be most favourable. For example, if there is a meat cache somewhere on the coast, foxes (and bears) will be attracted to it and therefore, a large number of traps will be set nearby. The location of traplines varies from year to year, although some men will work the same areas for several years if experience shows that these areas are particularly good.

It will be seen from the map that trapping is concentrated on the southern part of the Island, only a few trappers going into the north and northeast. This partly due to the fact that as the northern part of the Island is not inhabited at present, very little summer hunting is carried on there, hence no meat is cached in the northern areas for winter use. The eastern hilly part of the Island is not well suited to trapping.

Four, six, or more trips are made along the lines during the season. These trips will take only a few days in the case of short lines in the vicinity of Coral Harbour, but more than two weeks will be required to attend the lines extending into the Duke of York Bay area. The number of trips made will depend on several factors including the yield of foxes, the amount of dog food available, the need for money, and the inclination of the individual trapper. If he is short of dog food, he will perforce have to spend more time between trapping trips hunting seals. If the economy has been depressed and money is short, he may have to spend more time hunting for food for his family.

An interesting point arises here: we know very little about the Eskimo as an "economic man". For example, if fox yields are low what governs the Eskimo's decision to continue or not to continue trapping? Suppose that a trapper has ample dog food laid away so that this is not a preventive factor; and suppose further that yields and prices combined are such that a trip along his line will bring only, say, $25 for two weeks' work - will he make the trip? Theoretically, the trip costs him only expenditure of energy and his home life for two weeks. Presumably one governing factor will be his need for money, but if he has no need then we may suppose that his decision will be based on his desire for money weighed against his desire to stay at home with his family and not face the rigours of the winter. If he is very fond of travelling about the country mere inclination may tip the scales in favour of a trip. Nevertheless, there must be some point when the returns are so low that the trapper considers it not worthwhile to go out. Of interest is the fact that three foxes were found dead in traps at various points along the coast of the Island by members of the Survey in July. Presumably, there must have been many more uncollected skins in traps throughout the Island. This suggests that there may also be an upper limit when some trappers consider that they have earned enough and they have no urge to earn more. This is difficult to substantiate as particular traps may be overlooked or ignored for various reasons. There is clearly room for some research into this aspect of the Eskimo's activities.

The matter of foxes not collected from traps raises the question of foxes escaping from traps, which is quite a common occurence. The animal's foot may freeze and break off, or the fox may bite its foot off to escape. Eskimos who were questioned on this point made various estimates of their losses but it is not possible to suggest a definite loss as a percentage of traps set or foxes taken. One man who had taken 410 foxes said that he had lost 10, and another who took 130 lost 13. Generally speaking, for the average trapper, the loss is probably less than 10% of the number of foxes taken. To some extent more frequent trips to the traplines would reduce this loss. Although a fox which escapes from one trap may be caught in another there is still an overall loss to the community. Survey records show that by the Eskimos' own reckoning at least 230 foxes escaped (the true figure was probably in the region of 300) which represents a loss of about $3,000.

The number of foxes taken by a trapper is a function of many factors, apart from the size of the fox population. A tight interplay of forces prevails which is worth emphasizing. To be a good trapper a man must have traps, a strong well fed dog team, a good komatik and its supporting equipment, rifle and ammunition. He must have food for his dogs, himself and his family while he is out on his trapline. The trapper needs mobility in the wintertime but to achieve it, he must have mobility in the summertime (boats, fuel, etc.) to catch marine mammals. The availability of dog food is very much a function of the previous summer's marine mammal harvest, particularly the walrus catch, and this in turn is a function of the trappers' credit standing in the store since the walrus hunt requires engine fuel, oil, and ammunition. But his credit standing in the store is itself determined to some extent by the trader's estimation of the man as a trapper and hunter, plus the amount of credit he derived from the previous winter's trapping. Thus the success of a trapping season is determined by much more than the trapping activity itself, although this alone calls for a high degree of ability on the part of the trapper. He must be competent to live in the field in a harsh environment, know the country over which he traps or be capable of learning about it very quickly; he must understand the fox, know where the denning areas are, and spend long periods away from home. In short, he must be a hard working intelligent person. Unfortunately, all his resourcefulness may be of no avail in a poor fox year, and in a good year there is no certainty that his large pile of pelts will bring him a commensurately large income.

Local white opinion favours the view that the trappers could, in fact, spend more time on their traplines and that they tend to equip themselves too elaborately before setting out along the trapline - this latter point seems to refer mainly to the quantity of store bought food and ammunition he takes with him. It has been suggested that if some huts were set up in the interior, trappers might spend more time on their lines, and in some cases would perhaps take their wives along with them. There is some merit in this suggestion and it would be worth trying.

The 6,430 pelts obtained by the Southampton trappers during 1960-61 attest to their abilities both as trappers and hunters. This harvest provided the largest single source of income to the community. 1960-61 was, however, an exceptional year and it is considered to have been the peak year of the fox cycle which is expected to enter its low phase in the next few years. In recent years, the average income from fox pelts has been roughly $20,000, as can be seen from Table X.

TABLE X

Fox Pelts Traded at Coral Harbour 1949-59.

Year	No. Pelts	Value	Approx. Average Price.
1949-50	3,017	$12,297	$ 4.
1950-51	2,762	25,727	10.
1951-52	1,240	7,982	6.
1952-53	1,023	7,886	7.
1953-54	2,842	23,530	9.
1954-55	2,395	21,989	10.
1955-56	1,072	10,052	10.
1956-57	621	9,338	15.
1957-58	1,621	25,743	17.
1958-59	1,192	21,832	19.

Source: Van Stone, 1959, p.7.
Note: The value column includes also the value of polar bear skins but these were too few to affect significantly the total values or average prices shown.

The low take in 1956-57 was partly due to the last low phase of the fox cycle, partly to the loss of a large boat, and partly to the opportunities for wage work on construction jobs.

While discussion of the income derived from furs should properly be included later in the section on money incomes, it is perhaps more convenient to deal with here with reference to the above table. It will be noticed that a low yield is not necessarily accompanied by high prices. During the years 1949-53, the yield dropped from 3,017 to 1,023, the price rising during the second year but dropping during the third and fourth years. In 1956, a high price did accompany a low take, but the highest average price was obtained in 1958 when the take was almost double that of 1956. In 1960-61, when the take was over 6,000, the average price was about $12.50. One reason for this is, of course, that the fox fur market is essentially a buyer's market, the price being dictated by demand rather than supply. Also, the phases of the fox cycle do not coincide throughout the Arctic. A low phase in Keewatin is not necessarily accompanied by a low phase in, say, the Mackenzie. The Hudson's Bay Company uses the advantages of its large scale organization to secure the best prices possible. Commercially, it is in

a better position to get the best price than are the Eskimos.*

A small number of pelts may be used domestically and in 1961, one trapper traded his furs directly in exchange for a Peterhead from Chesterfield, but the bulk of the furs are traded through the H.B.Co. store in Coral Harbour. In this respect, the Company serves as the middleman in the normal channels of trade. The only improvement of any significance which could be set in motion in this respect would be one which would enable the Eskimos to sell to the market by a more direct route and thus obtain (theoretically) a better price for their furs. In some other areas this is done successfully. Such a change in the system would be drastic and would have to be initiated by the Eskimos themselves. The disposal of furs, therefore, may be expected to continue as at present unless the Eskimos (or the Company) initates some change.

Polar Bear. The polar bear is the only other land animal of immediate importance to the Eskimos of the Island (the lemming is, of course, important in so far as it is a source of fox food, but it is not used directly by the Eskimos). Bears are frequently shot by trappers during trapping trips, particularly in the vicinity of caches. Organized hunts occasionally take place, but these are the exception rather than the rule. One which lasted over a week-end in the winter of 1961 resulted in a bag of 15 animals. Data on bear skins traded and exported in recent years is shown in Table XI.

TABLE XI

Bearskin Traded and Exported 1951-1961.

Year	Skins traded at H.B. Store *	Total skins exported**
1950-51	15	3
1951-52	15	17
1952-53	14	44
1953-54		27
1954-55		74
1955-56		92
1956-57		67
1957-58	30	No data
1958-59	63	49
1959-60		46
1960-61		57

Sources: * Van Stone 1959, See References.
** Unpublished data, Fur Export Figures, Territorial Division, D.N.A.

The difference between the number of skins traded and the number exported indicates that private trading, e.g. to visitors is preferred to trading through the Company. The D.O.T. establishment

* For a general discussion of this topic see: Loughrey, A.G., "The Economics of the Fur Industry in Canada" in Resources for Tomorrow, Conference Background Papers, Vol. 2 The Queen's Printer, Ottawa, 1961.

probably provides a good market locally, and the effect of an influx of white construction workers shows up clearly in the figures for 1954-57. Prices for skins range from about $40-$80, but large skins in good condition will fetch more than this.

Official concern for the polar bear population in the Arctic led in 1958 to measures for its protection, and there is now absolute prohibition on the killing of females accompanied by cubs under one year old. The regulations appear to be effective and respected by the Islanders, which is fortunate since the eastern hilly part of the Island is a favourite denning area and the Island is famous for its bear population.

The number of bears killed in any year will usually exceed the number of skins sold because not all the skins are suitable as sale articles - in some cases they may be too badly damaged by bullet holes. Also, the skin is highly valued for certain items of clothing and makes one of the best komatik rugs. The meat may be used for dog or human food and a certain amount of waste undoubtedly occurs. The number of bears killed in recent years is not known exactly but probably amounts to 25%-50% more than the number of skins traded.

Birds. The number of birds taken each year is not known with certainty but birds are a valuable part of the total food supply. Ptarmigan are shot in the wintertime and are a common source of food on the trapline. Geese and ducks are much sought after in the summertime. The mouth of the Boas River is a vast nesting ground but is too far away from the Coral Harbour area to receive much attention from the Islanders. Geese are hunted along the coasts of South Bay, but the favourite area is on the Bell Peninsula, which is also a large nesting area. Information obtained during the Survey suggests that hundreds of birds and eggs are taken in the summertime and there is an element of gluttony, no doubt excusable, involved. There is probably a considerable amount of waste attached to the exploitation of the bird population but this resource is probably underexploited. If carcasses were properly dressed and preserved, the Eskimos could enjoy a very valuable addition to their diets for a much longer period. Investigation into ways and means of preserving birds for later consumption should prove worthwhile. There is a danger here, of course, of overexploiting the nesting areas, a danger which would have to be met with control measures.

Marine Mammals. During 1960-61, the Islanders took:

1,100 seals (including squareflipper)
194 walrus
30 whales (beluga).

This is a large harvest and constitutes a major food source for both humans and dogs. When Southampton is referred to as an area of great food potential, it is usually the marine mammal population which is adduced in support of the statement.

Seals. Seals are hunted throughout the year, most intensely in the spring when they are to be found sunning themselves beside holes in the ice, and least intensely in the fall when walrus hunting is a major activity. In the summer, seal hunting takes place on the open water from canoes and Peterheads, and during the winter some seal hunting is carried out across the ice and at the floe edge between trapping trips. The techniques of seal hunting are very adequately described elsewhere and require little comment here.*

Of considerable importance is the loss of seals through sinking during the spring and early summer. This sinking loss is not known exactly, but if Eskimo estimates are correct it is high. Survey records show that Eskimos interviewed estimated more than 80 seals lost through sinking during 1960-61. It can safely be said that this is an underestimate - the true loss was probably between 200 and 300 at least. Probably the best way of obviating this loss would be to encourage the use of seal nets. Unfortunately, the South Bay coast is not well suited to seal netting during the open water season owing to the absence of small offshore islands and the shallowness of the water. Nets could be used, however, while the sea ice is still present, and in one or two selected areas during the open water season. It is not likely that the loss can be obviated altogether, but some attempt should be made to reduce it.

Seals provide human food, dog food, fuel oil, and skins for clothing or handicraft. Carcasses are stored either in caches along the coast or in drums at the settlement. Preservation is consequently poor, and although the amount of waste is not known, it must be quite high. Seals caught early in the summer go bad quite quickly and after a few days are fit only for dog food. Seals caught in the fall when the weather is colder will last somewhat longer, but there is obviously scope for improved methods of preservation. (For an assessment of the food potential and amount of waste see pp.46-49). At present, much of the seal meat which could be used for human food is used to feed dogs.

Some of the seal oil is used for domestic fuel but the amount is not as much as could be so used even allowing for the fact that some is required for human and dog food.

Skins may be traded, used domestically, or turned into handicraft. The number of sealskins traded at the store is not known but possibly 300-400 were disposed of this way. At an average price of about $4, this would provide an income of about $1,600, a small amount compared with earnings from other sources. Skins are used also for items of clothing, the squareflipper hide being particularly valuable for making boots and traces. Undoubtedly, this is a resource which could be

* See References: Manning, T.H. 1944
MacLaren, I.A. 1958
Van Stone. 1959

developed to bring the Islanders a larger return. Investigations carried out by the Industrial Division indicate that small scale tanning equipment could probably be set up to produce tanned skins economically on the Island.* This alone would enhance the value of the skins, but if tanned skins were to be manufactured into skin handicraft for export the value of the skins to the Eskimos would be increased about threefold.

Walrus. The walrus take for 1960-61 has been estimated at 194 animals, and in recent years has averaged about 200, which is close to the sustainable yield (see Table XII).

TABLE XII

Walrus Harvest

Year (up to June 30th)	Catch
1951	101
1952	229
1953	272
1954	254
1955	217
1956	155
1957	77*
1958	146
1959	229
1960	113

*This low take was due in part to the loss of a boat and in part to construction activity.

Source: Unpublished data, Fisheries Res. Board, Montreal.

The largest part of the walrus harvest is taken on hunts made in Peterheads and whale boats during the summer and fall, particularly August and September. A detailed account of the hunting practices and techniques is to be found in Loughrey, 1959 (see References).

The walruses are hunted mainly in South Bay from Seahorse Point to Cape Low and southward to the coasts of Coats Island. Where practicable, the animals are chased into shallow water and if possible, butchered on shore, but animals caught out at sea will be butchered over the side of the boat. Only the dressed carcasses (averaging about 800-1,000 lbs. per animal depending on size) are saved and these are either cached along the coast of Southampton or taken back to the settlements and stored in old gas drums. Meat secured in the earlier part of the

*Mr. W. Hill, Industrial Division, personal communication.

summer will go bad fairly quickly, and frequently goes rancid in the hold of the boat by the time the hunters return to the settlement. Later in the season lower temperatures will hold the meat a little longer. As a rule all the walrus meat has been used up by about the end of February at which time further seal hunting is carried on to replenish meat supplies. There is a loss incidental to normal hunting methods which probably amounts to about 25% of the total number of animals killed. This loss could, no doubt, with care be reduced and the Eskimos should be encouraged to improve their hunting technique.

Walruses provide human food, dog food, tusks, and a blubber which burns with a very hot flame but which is rarely used as fuel. The products of the walrus hunts are usually consumed domestically on a share basis which extends beyond the immediate family to members of the kinship group particularly those related in some way e.g. by marriage. Individuals who have no share in a hunt and who are short of meat may purchase some from other hunters - one of the rare examples of the exchange of goods for cash within the community. Obviously, the seller will be an individual who has a considerable surplus over and above his own needs, which is tantamount to saying that he has either had a very successful hunting season, or has a very small dogteam and trapline, or family to support.

Here again, we know little about the economic rationale underlying the exchange. The price seems to vary from $8 to $12 for a chunk of meat which may weigh up to 300 pounds, but how the seller arrives at his selling price is not clear. From information obtained during the Survey, the cost of catching a walrus varies from about $6 to over $14. These costs were arrived at by estimating the costs of gas and oil for three trips on which 7, 12, and 14 walrus were taken. The hunters, of course, receive no wages. (A more accurate accounting should of course include ammunition, and a charge for wages.) Obviously a two-day trip which yields 14 walrus is a less costly affair than a ten-day trip which yields only 10. Skill, luck, and weather are all reflected in the total cost of a hunt. Since the Eskimos have no clear idea of cost of catching walruses, the price charged for walrus meat must be based on other considerations. Under these circumstances, it is difficult to assess the Islanders' resource harvesting activities in terms of outlay, efficiency, and returns.

How much of the meat is used for human food and how much for dog food is not known but it seems that less is fed to humans than to dogs. It may be argued that the people are losing their taste for walrus meat in favour of store-bought foods. This argument can perhaps be applied to country food in general - the H.B.Co. manager at Coral believes there is a tendency to anaemia in the younger people due in part to the increased use of store-bought foods. Walrus meat contains Trichonella and, therefore, has to be well boiled before being eaten by humans.

Walrus constitutes the major source of dog food and is the preferred food for dogs - it is alleged to give them more verve and vigour than other country food. The Eskimos have no sure knowledge of the number

of walruses they use for this purpose but it would appear to be about 5-6 animals for a 7-dog team. Better utilization of the walrus harvest could be achieved with improved storage and preservation techniques.

Tusks are used either for articles of equipment, such as toggles, or may be carved for sale as handicraft. In spite of the relative abundance of walruses, good tusks are not plentiful. Only a few ivory carvings are produced each year and the number of tusks used for making equipment is not known. Not all the carvings are good enough to command a high price - the value of an ivory cribbage board to the carver is probably about $5-$6, whereas the value of well executed figurine may be worth $10-$15 or more. The community would probably receive more value for the tusks if these were sold to the more skilled craftsmen to be carved into higher priced articles.

Whales and Narwhals. Few narwhals are taken in the southern waters but whales are commonly found in South Bay during the summer months, very often close to Coral Harbour itself. Two nets used in the vicinity of Coral Harbour during the summer of 1961 yielded 15 white whales. Another method of catching these animals is to chase them into shallow water and shoot and hound them to death. There is a loss of undetermined size incidental to this activity. The whales provide human food, dog food, and fuel. Several families reported using whale oil as fuel but nobody used this fuel exclusively. The skin is of course regarded as almost a delicacy by the Eskimos but, as with the other marine mammals poor storage and preservation undoubtedly result in a considerable amount of waste. It is almost certain that the whale population is underexploited and the whale carcasses under-utilized. More aggressive hunting of the whales would result in a larger harvest, and better handling of the carcasses would result in a higher yield of food and by-products.

With regard to marine mammals generally, research by the Fisheries Research Board indicates that while these animals are not being overexploited at the present time an increase in the annual take would probably result in the depletion of the herds.* This is not true of the whales, which could probably support a larger harvest. All the harvesting of marine mammals in recent years has been carried out in the South Bay - Coats Island area. If additional population comes to the Island it would probably be advisable to encourage seasonal harvesting in the Duke of York Bay area where whales, narwhals, and seals are available. From the Bay walrus on the north-east coast of the Island would also be accessible, and a herd frequents a small group of islands just north of Wager Inlet in August. (See photo p. 45). An increased population should depend on better utilization and more dispersed harvesting rather than increased catches in the southern waters. Particular attention should be paid to the use of nets to cut down loss of seals and increase the harvest of whales, while better storage and preservation methods would permit better utilization of the animals actually taken. Present exploitation of the annual catch is considerably lower than it should be, a matter which is discussed on a quantitative basis later (see p. 46).

* Mansfield, A. "Present status of the walrus population at Southampton and Coats Islands", (mimeo) F.R.B. Montreal, Sept. 1961.

Fish. The fish population is exploited in a comparatively casual manner, through lake ice along the traplines in winter, through the fast ice in the spring, and with nets set along shore in the summer. It is probably safe to say that this resource is capable of more organized and intensive harvesting. The Arctic char is the main species caught but some lake trout are reported in the inland lakes. During the spring and summer fishing for domestic consumption becomes intensive for short periods at the whim of individuals. Fresh char comes as a welcome addition to, and change in the diet at this time of year.

The mesh sizes of the nets used vary from 2½" to 4½". F.R.B. has suggested that, from now on, Eskimos should be actively encouraged to use 5½" mesh nets. At the present time the streams flowing into South Bay, particularly the mouth of the Kirchoffer and 16 Mile Brook are the favourite fishing spots, but nets are set out from the shore in the vicinity of all the settlements. The size of the catch is not known but is probably somewhere in the neighbourhood of 10,000 - 15,000 lbs. This domestic catch militates against the possibility of an organized commercial fishery involving a freezer. Such a fishery, to be economical, would require a quota of about 20,000 pounds of fish. That is to say the area would have to produce 30,000 - 35,000 pounds of fish to supply both the commercial and domestic requirements. It is unlikely that the fish population could stand this rate of harvesting for long. As the char is an anadromous species an important factor is the nature of the river systems which enter the Bay. None of these systems is large or has large lake bodies in the interior, and the largest river - the Kirchoffer - not only has no lake system connected with it but there are large falls near its mouth which are a barrier to char.

Fish is used mainly as human food, although dogs no doubt get a large share of the catch plus left-overs and fish which has gone bad. The prevailing method of preservation is sun-drying, and the Islanders could make better use of the catch if they used some form of cold storage.

The prospects for commercial fishing are discussed later (see p. 65).

Summary of Resource Exploitation

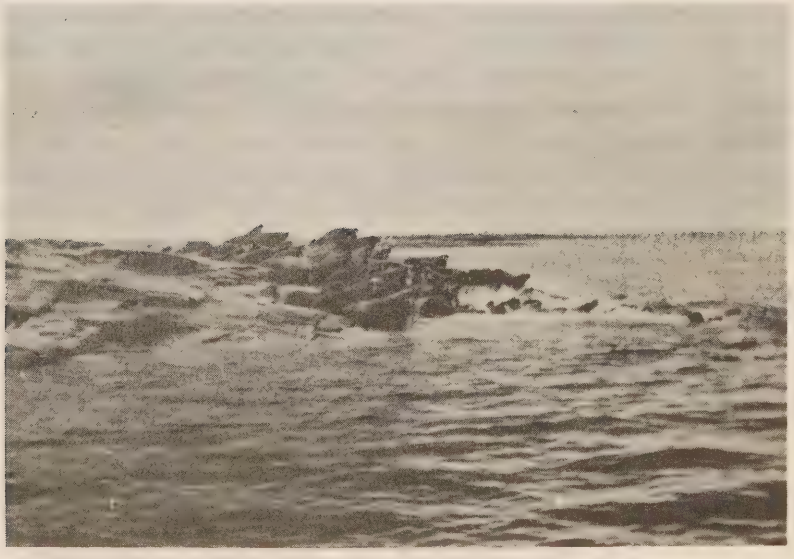
The natural resources of the Island are harvested with varying degrees of vigour and efficiency. Fox trapping is very intensive during the season from November until April; seal and walrus are intensively hunted during the spring, summer, and fall; whales are taken in the summer but they are pursued more casually than are seals and walruses; bears are taken somewhat fortuitously and mainly as a by-product of trapping activity. Birds are taken in winter but are more intensely hunted in the summer. Likewise some fishing is done in winter but the main catches are taken in the summer.

Geographically, the northern part of the Island is less intensively harvested with respect to land resources than is the southern part, and definitely under-harvested with respect to marine resources. This may be due to the abundance of fox in 1960-61; in a poor fox year the people probably hunt and fish over wider areas.

An undetermined amount of waste attends the utilization of practically all resources. This is due to several factors including varying degrees of efficiency achieved by different individuals, poor preservation and storage facilities or techniques, and in some cases lack of initiative and ambition.

Effect of additional population

If more people come to the Island from elsewhere they will almost certainly congregate around the present settlements at the head of South Bay. This will tend to increase the pressure on resources in that area, perhaps to the point (or beyond it) where the resources will be in danger of being depleted. This danger will have to be met with measures to spread harvesting over a wider geographical area and to improve the utilization of the various resources. In a poor fox year the pressure on food resources will undoubtedly increase markedly.



Herd of walruses north of Wager Inlet, August, 1961.

2) Food Potential

Southampton Island is commonly considered to be an area of large food potential and those who know the Island frequently comment upon this and suggest that a considerable amount of waste must attend the use of the food resources. These comments are usually very qualitative and generalized, and similar comments have been made in earlier parts of this report. As this is a matter of primary concern in this report, it is necessary to attempt a quantitative assessment of the food resources.

The following discussion refers only to the marine mammal harvest of 1960-61 which amounted to: 1,100 seals, 194 walrus and 30 white whales. It is assumed that 935 of the seals were ringed seals averaging 76 lbs. weight, and that 165 were bearded seals averaging 465 lbs. weight. The average weight of walrus is assumed to be 1,400 lbs. and of whales 1,200 lbs.*

Table XIII on the next page shows a breakdown of the possible yield of various body structures of the animals harvested. Edible viscera includes heart, liver, and kidneys in the case of seals; and heart and liver in the case of walruses. These organs may be eaten by humans but are not always recovered for human consumption. The internal organs listed as dog food and waste comprise stomach, spleen, etc. The second column shows the approximate percentage of the total body weight represented by the various structures. Column three shows the normal use of the parts, and column four the amounts so used. Table XIV is self-explanatory.

With regard to dogs, their food consumption is not known with any accuracy. A rule of thumb figure is 500 lbs. per dog per year, but this may be rather high. Loughrey estimated two lbs per dog every other day during the working season, the dogs fending for themselves during the summer. MacLaren suggests one lb. of meat and $\frac{1}{4}$ lb. of fat during the working season, and $\frac{1}{2}$ lb. of meat and $\frac{1}{4}$ lb. of fat during the slack season. Using MacLaren's suggestion and assuming a working season of 7 months the following estimate is obtained for 400 dogs (estimated dog population of the Island):

Meat

Working days - 210 days x 1 lb. per dog x 400 dogs	84,000 lbs.
Slack days - 155 days x $\frac{1}{2}$ lb. per dog x 400 dogs	31,000 lbs.
Total meat	115,000 lbs.

Fat

- 365 days x $\frac{1}{4}$ lb. per dog x 400 dogs	36,500 lbs.

* The data used in this section have been derived from:
(a) McLaren, I.A. 1958
(b) Loughrey, A.G. 1959
(c) Field observations, discussion with Eskimos, and discussion with D.N.A. staff, particularly Mr. A. Loughrey and Mr. C. Russell.

Table XIII

FOOD POTENTIAL

(Based on marine mammal harvest of 1960-61) For explanation see text.

Ringed Seal	Total weight of 935 seals			71,060 lbs.
Meat and edible viscera	27%	man or dog*	19,186 lbs.	
Internal organs	9%	dogfood & waste	6,395	
Bone	16%	waste	11,370	
Blood	5%	lost	3,553	
Blubber	32%	fuel etc.*	22,739	
Theoretical yield at	89%	utilization.....		63,243
Bearded Seal	Total weight of 165 seals			76,725
Meat and edible viscera	25%	man or dog*	19,181	
Internal organs	9%	dog food & waste	6,905	
Bone	16%	waste	11,676	
Blood	5%	lost	3,836	
Blubber	27%	Fuel etc.*	20,716	
Theoretical yield at	82%	Utilization.....		62,314
Walruses	Total weight of 194 walruses			281,600
Meat and edible viscera	26%	man or dog*	73,216	
Skin and fatty tissue	30%	dog food & waste	84,480	
Internal organs	6%	thrown away	16,896	
Bones	12%	waste	33,792	
Blood	7%	lost	19,612	
Theoretical yield at	81%	utilization.....		227,996
Whales	Total weight of 30 whales			36,000 lbs.
Meat and edible viscera	23%	man or dog*	8,280	
Internal organs	10%	thrown away	3,600	
Bone	12%	waste	4,320	
Blood	6%	lost	2,160	
Blubber	30%	fuel etc.*	10,800	
Theoretical yield at	81%	utilization.....		29,160 lbs.

* Includes some waste.

Table XIV

Summary of Food Potential.

If we assume that all the bones, blood, and internal organs can be processed into dog food or preserved for dog food the above figures may be summarized as follows:

	Human food (edible meat and viscera)	Dog Food (including blood bones, etc.)	Blubber
Ringed Seal	19,186	21,318	22,739
Bearded Seal	19,181	22,417	20,716
Walrus	73,216	154,780	in dog food
Whale	8,280	10,080	10,800
	119,863	208,595	54,255

Note: The total yield by this accounting comes to 382,713 lbs. or nearly 83% of the total body weight (464,935 lbs.) of the animals harvested. It would be unrealistic to expect such a high recovery rate as there is bound to be some unavoidable loss and waste. This does not affect the general argument presented in the text.

If we add up only those items in Table XIII which are listed as "dog food and waste" the total comes to 101,920 lbs. i.e. about 13,000 lbs. short of requirements. This deficiency will inevitably be made good from food which should be reserved for human consumption. Furthermore, the figure 101,920 includes an unknown amount of waste - 101,920 lbs. of dog food are not, in fact, recovered, which means that there will be further inroads into the stock of human food. (For the sake of argument and illustration, the bone of all the animals has been listed as "waste". This, of course, is not strictly accurate but it would be difficult to estimate how much of the bone is consumed as "food" by the dogs). If there is an addition to the Island's population of, say, 10 families, this would mean an increase of about 80 dogs which would raise the dog food requirements by 23,000 lbs.

Table XIV shows that with better methods of recovery and preservation there would be more than enough dog food to meet requirements without using any food which should be reserved for humans.

With regard to human food, Table XIV shows that there is a potential amount of 119,863 lbs. This is sufficient to provide a population of 210 people with nearly 570 lbs. per head. To arrive at a figure for the total amount of country food available for human consumption we would have to add birds, eggs, fish, caribou meat (some caribou are taken from Coats Island), and bear meat. Dogs also receive some bear meat and the carcasses of trapped foxes.

Even if the foregoing figures overestimate the potential, the conclusion is clear - present utilization amounts to about 30%-40% of the harvest. Techniques do exist for better preservation and utilization and these should be tested under Southampton conditions. If bones blood and internal organs were processed and added to the other dog food, there would be ample food for the dogs and no need to use food which should be reserved for human consumption.

Finally, it is also evident that with proper processing and preservation a smaller harvest would ensure adequate food for both humans and dogs - a point of interest to conservation.

3) Money Resources (including credit)

(i) Sources of income

There are four major sources of money income on the Island:

(a) Natural resources and their products, e.g. fox furs, sealskins, ivory carvings, etc.

(b) Wage employment which may be either
(a) casual, or
(b) regular.

(c) Services such as boarding school children, boat charters, etc.

(d) Other income: (a) family allowances,
(b) old age pensions,
(c) relief.

Full and accurate data for all the earnings from all these sources is not available. Compilations of some of the relevant data are shown in Table XV and TableXVI . While these figures show in a general way the relative importance of various sources of income they are incomplete and a few explanatory comments are necessary.

(1) It has not been possible to check the figures for 1953 and 1955 but they probably present a reasonable picture. In each case, however, the figure for wage work may be an underestimate. Also, in 1955 equipment hire may well have brought $1,000 or more to the owners of Peterheads and whale boats.

(2) For the years 1957-61 only the wage work which was recorded in D.N.A. wage orders has been included in the tables. For each of these years probably another $5,000 at least was earned handling freight for D.O.T. and the H.B.Co., and there would be other casual work performed for D.O.T. The figures for equipment hire during these years do not show amounts earned for cargo handling or boat contracts paid for by organizations other than D.N.A. The handicraft figures do not take into account the handicrafts traded to the H.B.Co. This is a relatively small trade now as most of the handicraft production is organized under an arrangement with the Frobisher Bay Rehabilitation Centre. Some crafts are also sold locally to visitors to the Island.

(3) Wage work during 1960-61 brought the Islanders considerably more than is shown in the tables for that year. H.B.Co.

TABLE XV

SUMMARY OF INCOME FROM VARIOUS SOURCES.

Year	Wage Work $	Social Payments: Family Alowance $	Social Payments: Relief $	Equipment Hire $	Handi-Craft $	Board $	Other $	Fur $
1953 (1)	2,100	10,594		No Data	900	-	No Data	7,886
1955 (2)	25,800	7,700	2,500	No Data	No Data	-	1,400	21,989
1957-58 (3)	1,517	6-7,000*	96	36	52	272	52	25,743
1958-59 (3)	6,592	6-7,000*	-	1,057	993	1,159	44	21,832
1959-60 (3)	8,861	6-7,000*	47	358	1,853	215	-	35,000 approx.
1960-61 (3)	8,784	6,792	-	Included in wage order	833	9,922	-	75,000

Sources: (1) Unpublished data, Fur Export Records, Territorial Division, D.N.A.
(2) 1955 Census.
(3) D.N.A. Wage Orders at Coral Harbour, compiled by Area Economic Survey. Payments by D.O.T., H.B.Co. and other organizations and individuals are not included.

* Estimate

Note: The fur figures are taken from Table 10 on p. 37 of this report.

TABLE XVI

MONTHLY SUMMARY OF D.N.A. WAGE ORDERS 1957-61.

1957-58.

	July	August	September	October	November	December	January	February	March	April	May	June
	$	$	$	$	$	$	$	$	$	$	$	$
Wage work				252	146	177	114	112	148	117	200	251
Equipment Hire				-	-	-	8	-	-	8	10	10
Boarding		No Data		-	-	-	62	-	118	-	92	-
Handicraft				-	-	-	-	-	-	-	-	-
Other				-	-	-	-	-	-	-	-	52

1958 -59

Wage Work	154	95	130	4007	529	235	369	218	165	268	5	417
Equipment Hire	14	12	249	526	5	15	40	24	32	40	16	84
Boarding	40	-	-	53	-	122	263	42	354	-	180	108
Handicraft	-	-	-	-	-	7	29	89	91	72	489	216
Other	44	-	-	-	-	-	-	-	-	-	-	-

1959-60

Wage work	282	149	796	4805	323	976	15	363	700	107	28	317
Equipment Hire	104	120	95	24	15	-	-	-	-	-	-	-
Boarding	-	-	-	-	215	-	-	-	-	-	-	-
Handicraft	15	5	373	94	-	7	80	125	245	322	121	466
Other	-	-	-	-	-	-	-	-	-	-	-	-

1960-61

Wage work	548	797	2860	842	758	9	119	1375	56	900	78	442
Equipment Hire	-	-	-	-	-	-	- About 1,200 for the year					
Boarding	-	-	225	712	1163	1125	1163	1162	1050	1259	1125	938
Handicraft	427	117	14	77	-	15	-	-	26	46	76	35
Other	-	-	-	-	-	-	-	-	-	-	-	-

Source: Compiled from D.N.A. Wage Orders - Coral Harbour by Area Economic Survey.

paid out $736 for cargo handling, while D.O.T. paid out approximately $9,900 for cargo handling and other casual work and a further $5,400 to one Eskimo regularly employed as a truck driver. Total income from wage work consequently amounted to about $25,000.

(4) Finally, the tables do not show how much money has passed between Eskimos within the community in exchange for various goods and services. A certain amount of walrus meat is sold by some hunters who have a surplus to others who have a shortage. Another example of exchange occurred in the summer of 1960 when a Peterhead owner was sent to hospital and allowed other Eskimos to use his Peterhead on condition that they paid his wife $300.

The various sources of income listed on p.50 will now be discussed in turn.

(a) Natural resources. By far the largest income during 1960-61 was obtained from the sale of fox furs. Over 6,000 were traded in the store at an average price of $12.50, providing a total income of over $75,000. In addition to the furs traded in the store, about 400 furs were sent to Chesterfield by one Eskimo in payment for a Peterhead boat sold to him by the Catholic mission there. 1960-61 was, however, a very good year for the trappers. During the last ten years the average income from furs has been about $20,000 (see Table 10 p.37) For planning purposes it would probably be wise to assume that income in the next few years will approximate the ten-year average.

During 1960-61, sealskins were traded at an average price of about $4.00 but the magnitude of this trade is not known. It probably amounted to about $2,000 - $3,000.

50 polar bear skins were traded at the store at prices ranging from $35-$60, depending on quality and size. Some skins were also traded privately to white people living on the Island.

As has already been noted there is a certain amount of walrus meat sold within the community but the magnitude of this trade is not known.

At the present time handicrafts made from local materials play only a very small part in the economy. In spite of the large number of walruses taken there seem to be few good tusks. One or two men turn out attractive carvings from the better tusks. Other handicraft, i.e. handicraft manufactured from duffle and other purchased material, has been actively promoted by the Area Administrator and is sold through the Frobisher Bay Rehabilitation centre. In 1960, all handicraft, (ivory carvings, sealskin articles, and goods made from purchased materials) brought an income of $1,988. This represented 243 articles made by 59 workers. Only 3 people earned more than $100, 14 earned $50 and over, and 30 earned less than $20. This is an activity which could be considerably expanded and form the basis of a co-operative venture. But there is room

for improvement in the quality of many of the articles produced and the workers would, no doubt, appreciate guidance and advice in this connection. Plans to expand the handicraft production should also include improved handling of sealskins. As noted previously, tanned sealskin handicraft could form a valuable addition to the economy.

(b) Wage employment. Wage employment on a casual basis was the second largest source of income to the Islanders in 1960-61 (nearly $25,000) and has been a continuing and important source of income in recent years. Only three men are employed regularly at the present time: one is a truckdriver for D.O.T. whose earnings during 1960-61 were a little over $5,400, one is employed on janitorial duties by D.N.A., and the other is an apprentice clerk in the H.B.Co. store. While the incomes received by these individuals is very significant to them and their families, casual work is more significant to the community as a whole. Most of the casual income is gained from freight handling during the summer shipping season but casual work of various kinds is available from time to time throughout the remainder of the year.

(c) Income from services. (a) Boarding school children. During the winter months several households receive income from the Government for boarding school children in Coral Harbour. During the winter of 1960-61, payments for boarding averaged about $1,100 per month. Payment is at the rate of $1.50 per child per day, and about 25-30 children are involved. Boarding payments have risen from none to nearly $10,000 worth in the last five years, and while this money obviously does not represent a net gain to the recipients there is presumably an element of profit involved.

(b) Hire of equipment. Equipment is hired from Eskimos at various times of the year for a number of purposes. In the wintertime, local staff, visitors, and others who wish to travel from Coral Harbour to Snafu may travel by means of hired komatik and dog team for $8.00. Canoes and larger boats may be hired from time to time, and Peterheads are employed in lightering during the shipping season. From time to time, scientists may hire boats for several weeks to carry out investigations in various parts of the Island. In the summer of 1960, all the Peterheads had contracts for two or three weeks at a rate of $40 per day. The value of the contract for the Peterhead used by the Area Survey amounted to over $2,000. Equipment hire, therefore, while providing only a small income to the community in general, may make a significant contribution to certain families.

(d) Other income. This is found mainly in the form of social security payments familiar elsewhere in Canada. Family allowances, old age pensions, and relief, are subject to Government regulations. Some discretion is allowed the local administration in the matter of relief payments, and in Coral Harbour these are kept to a minimum. It must be emphasized that the administration of relief is not carried out in an autocratic manner. The local administrator is guided by the belief that an able-bodied man should be persuaded to support himself rather than look to the Government for free gifts. Genuine case of hardship receive sympathetic treatment.

There are one or two features of the money incomes which are worth a little attention at this point.

(1) There is very little exchange of goods and services within the community. The sale of walrus meat is one example; and the boarding of school children is another. But in the case of the latter, the payment is made by an outside organization, not from within the community. This is generally true of boat charters also, an exception being the case mentioned above where payment was made to a man's wife for the use of his boat during his absence.

(2) Casual wage employment is very seasonal in character, being concentrated mainly into the summer months. This is also true of boat charters.

(3) Not all the income derived from the various sources is a net gain to the community. The income derived from cargo handling for the H.B.Co., for example, presumably appears as a cost in the store's accounts and will be added to the sale price of the goods. In this respect, cargo handling for D.N.A. or D.O.T. may be regarded as mainly a net gain.

(4) Money from different sources is not distributed proportionately among the four settlements. Thus from about $15,000 paid out in wages by D.O.T. over $12,000 went to residents of Snafu. On the other hand, all the boarding allowances were received by Coral Harbour residents. In 1960-61, the Munn Bay people shared in neither the D.O.T. payments nor the boarding allowances. Coral Harbour residents naturally have more opportunity for casual work to be performed for D.N.A. or the H.B.Co. but most of the Islanders perform casual work at some time of the year, especially during the shipping season.

Future prospects of money incomes.

While it is not possible to forecast with any accuracy the magnitude and pattern of future money incomes a few reasonable estimations may be made.

Income from natural resources will depend on effective demand and supply. Trappers supply a luxury market and the long term trend in fur prices has been downward. The low phase of the fox cycle will almost certainly result in a much lower total income from trapping, and it would be wise to anticipate that $20,000 or less will be earned yearly over the next five or six years. It has already been pointed out that the trappers could probably gain a larger share of the value of their furs if they had more direct access to the market. The income from sealskins could be raised if better methods of handling were introduced and sealskin handicraft production further developed. A commercial fishery producing canned or frozen fish would help to diversify the economy as well as increasing income.

Income from wage employment is not likely to increase significantly, and there are indications that it may decrease. D.O.T. has installed six 25,000 gallon fuel tanks near Snafu and these went into

operation in the summer of 1961. The landing of fuel in bulk will probably result in a $3,000-$5,000 reduction in community earnings. Consideration is being given to the possibility of laying on bulk handling facilities for Coral Harbour fuel. Whether this would result in a net loss to the community is not certain at present, since the saving in handling, charges, coupled with reduced transportation costs may result in a sale price for fuel sufficiently low to compensate for the loss in wages. Information received from D.O.T. shows that bulk handling results in a saving of about $20 per ton for fuel landed in Coral Harbour from Churchill. In so far as other employment is concerned, there is likely to be little change. There are plans to build a road from Snafu to Coral Harbour, to build a nursing station and a warehouse, and to replace the power lines in Coral Harbour. All these jobs will be done mainly by skilled labour from outside, possibly with some local help. Maintenance and janitorial work for two or three men will be available.

Boat charters and equipment hire are always uncertain items in the economy. The construction of a road to Coral Harbour will reduce this income to some extent, but may not seriously affect the lightering contracts for larger boats.

The handicraft industry shows promise but is not likely to grow substantially without further active encouragement.

Social payments will, of course, rise and fall according to population structure. There is no reason to suppose that relief payments will increase substantially, in spite of the approaching low phase of the fox cycle. This is partly due to the food potential of the natural resources, and partly due to the fact that the Islanders do not so far appear to be "relief conscious".

Effect of additional population.

Additional population could change the prospects with respect to two phases of the economy particularly. Per capita income from trapping would be likely to decrease, but this could be partially countered by encouraging more trapping in the northern parts of the Island. Likewise, more people would be available for casual labour so that individual incomes from this source will no doubt decrease. Consequently, if other phases of the economy are not more strongly developed increasing requests for relief may be expected.

(ii) Expenditure.

Detailed information on expenditure for many households could not be obtained by the Survey. Some families had retained receipts of payments made for purchases, but these were inadequate as a basis for description of the expenditure pattern of the community. Some generalizations are possible on the basis of observation and local information.

(1) Generally speaking, the Eskimo lives within his means. Credits and advances at the H.B. store are relatively short-lived affairs. During the winter, advances are made to trappers before they visit their traplines so that they can acquire supplies and provide for their families while they are gone. In the summertime, advances are commonly made to men going off on walrus hunts. The people have no long term debts hanging over their heads comparable with those which are common in the south. This is perhaps to be expected, since the Eskimo's future earnings are by no means dependable either as to size or regularity.

(2) To say that the Eskimo lives within his means is not to say that he necessarily lives wisely within these means. There is feeling among the local whites that the Eskimo is in fact a careless spender. There is much truth in this, but the extent to which the situation might be changed will depend on the extent to which society at large will permit interference in the Eskimo's spending patterns. Suggestion, persuasion, and subtle influence, could, however, go far to improve the situation. For present purposes two items of expenditure afford examples for discussion: rifles and outboard motors.

Sporting rifles can be obtained in the store for prices ranging from less than $20.00 to about $100.00. In 1960, twenty-two ordinary .22 calibre rifles were purchased at $17.50 each. "Hornets" (also .22 calibre) have become very popular and 14 were purchased at a price of $75.00 each! During the same period, nine higher calibre rifles were sold at prices averaging about $95.00. Rifles and ammunition are part of the fundamental equipment of the Eskimos, and in certain respects are also status symbols, but it is questionable if these purchases represent wise expenditure. Surplus army rifles can be acquired in the south for less than $30.00, and Eskimos who have handled these weapons have been impressed by their performance.

Local white opinion maintains that a 10-12 h.p. outboard is probably the best size of motor for the Eskimo's purposes, but outboards purchased in recent years have varied in size from 2½ to 18 h.p. The higher-powered engines are expensive to buy and operate, and the lower-powered ones are hardly adequate to the tasks set them.

There are also cases where the Eskimos fail to make advisable expenditures. Failure to spend money on engine spares, tools, and maintenance, exemplifies this problem. More money might be spent on these items in the interests of safety and efficiency, but the Eskimo appears reluctant to acquire spares and tools for which there is no immediate and obvious need.

While it would be unwise to generalize dogmatically about Eskimo expenditure, there is obviously scope for guidance and perhaps

help in this matter.

In the final analysis, it is fairly evident that the Eskimo could maintain his material standard of living at less cost to himself if he spent more wisely. By the same token, the Island could support a larger population at a comfortable standard on a lesser income per capita under the same qualification.

The problem may be tackled by guidance, education in the broadest sense of the word, and co-operative enterprise in which various influences could be brought to bear.

(iii) Capital Resources.

a) Working Capital. This is what would be described as producer capital in economics, and comprises rifles, boats, engines, fish nets, etc. and should properly include dogteams. (The old Eskimo adage, that a man is as good a hunter as his wife makes him, suggests that protective clothing should also be included under this heading.)

As a matter of interest, the price of some representative items bought in recent years have been as follows:

Fox trap	$ .98
Komatik (made from wood)	40.00 approx.
Outboard 7½ h.p.	275.00
18 h.p.	510.00
Inboard 6½ h.p. (plus rod & shaft)	670.00
Canoe 22'	625.00
Whaleboat*	4,000.00 approx.
Peterhead*	10,000.00 "

* Replaceable value in 1958 for insurance purposes.

Perhaps the most important feature of the capital goods in general is the relatively poor maintenance when judged by southern standards.

Maintenance of the hulls of boats in terms of paint and patches appears to be good, but it must be realized that the Eskimos understand little if anything of the concepts of stress and strain, and their boats are subjected of necessity to violent pummellings. Patches on the hulls of most boats attest to previous encounters with ice, rocks, and reefs. During the storms of the past summer, two large boats were so badly damaged that hey had to be beached at that time of the year when they were most needed for walrus hunting.

There are now five Peterheads on the Island, of which three are in good condition. One of these, owned by the H.B.Co., is for sale,

and another was brought recently from Chesterfield. Both of the remaining two were badly damaged during the summer of 1961. One was holed below the waterline and is in fair condition, while the other sustained serious damage to its ribs and is in poor condition - it may in fact not be used again.

There are also four whale boats. Two of these are in good condition, one having a new engine. One is in good condition but has no engine, and one is in fair condition. All these whale boats are now over fifteen years old.

The Hudson's Bay Company post manager advised the Survey that the cost of Peterheads today is so high as to be prohibitive in the north, and that the Company is seeking second-hand boats down south for sale to the Eskimos. This would point to the need for full investigation of the possibilities for boat-building in the Hudson Bay area.

Capital maintenance in the financial sense (see below under Savings) is almost non-existent, and the Eskimos have no understanding of the concept of, and applicability of depreciation funds. In short, if a boat is damaged beyond repair, the Eskimo has no depreciation fund to make good part of the loss. The loss accrues not only to the individual, but to the community in general.

With regard to other equipment, the quality of maintenance various considerably. Maintenance of boat engines has already been touched upon in the section on Education (p. 24). The engines of two or three of the large boats are well cared for but the tools and facilities for proper overhaul when the boats are brought out of the water in the fall are lacking. Outboard motors tend to deteriorate rapidly as a result of poor upkeep and operational practices. Some of the Eskimos do try to take good care of their motors but they would probably appreciate guidance and instruction. Unfortunately, there are cases of extreme waste - from time to time a motor which is inoperative for some reason will be dumped into the bay! Apparently this is done so that other Eskimos will not dismantle the engine for spare parts. Evidently, there is need for the creation of facilities which would encourage better maintenance and overhaul. A small machine shed equipped with a minimum of necessary tools might serve the purpose. Engines could be brought in for overhaul in the fall and checked for needed spare parts. These facilities might also be used for educational purposes. The D.N.A. engineer could be invited to supervise the shop and provide instruction in maintenance and operation.

Rifles, important items in the Eskimos' equipment, are generally maintained in fair to good condition, but some are in such poor condition as to constitute a hazard to the user.

b) Domestic Capital.

Included in this category are housing, furniture, and domestic apparatus. Housing has already been discussed at some length

and, as has been shown, is poor by southern standards, particularly the winter housing. In summer, many of the inhabitants move into tents which appear to serve the needs of summer accommodation adequately. Tents are also easily transportable if a family wishes to move away for a prolonged period of fishing. There is a tendency to move out of Coral Harbour in the summertime, and move back again for the winter.

Most of the winter houses are of shack-type construction, although there are one or two superior structures. Two new houses were being built by Eskimos during the summer from materials purchased through the H.B. store. The Eskimos appear to be moving of their own volition towards better housing construction, but the problem of overcrowding in the winter will be solved only by the construction of more houses, which in turn, depends upon ability to purchase. At present, several families may share one house during the winter.

The quality and quantity of domestic chattels varies within a fairly wide range, but the accumulation and general standard of material goods is low.

The need for some action is already apparent, and if additional people move on to the Island, the need for action will be urgent.

c) Savings.

The H.B. Co. provides banking facilities for the residents. In September of 1961, seven contributors had credits to the value of $4,683.93, the largest account containing $2,050.00, and the lowest $53.86. Within the previous twelve months there had been about 40 accounts, of which the two largest had been withdrawn to buy the above-mentioned houses.

These figures indicate that the propensity to save exists. The Company tries to encourage the Eskimos to save, but it seems that unless there is some definite end in view, the idea of saving has little appeal.

Considering the gross earnings of the community during recent years, the amount of savings is low. The fact that the low phase of the fox cycle is just around the corner is known to the Eskimos, but their attitude is that (a) there will be cargo handling and other casual work, and (b) there are sufficient food resources obtainable locally.

In general, it is important to remember that the long term rising trend in the cost of living affects the north, perhaps more so than it does in the south. This trend affects the replacement value of capital, a problem which requires attention.

Effect of Additional population.

The effect of a larger population on the capital resources of the Island would depend on how much capital the "immigrants" brought in. If they have little savings they will have to depend on the

Islanders or the Government to provide shelter until they can build their own houses. The figures in Appendix A show that the Islanders have no accommodation to spare.

The same is true of boats. Increased population will put pressure on the available Eskimo boats unless arrangements can be made to hire or buy the boat at present owned by the H.B.Co. A large Government-owned boat would solve this problem and at the same time be useful for administrative and other duties (e.g. seasonal harvesting in Duke of York Bay).

It is not unlikely that immigrants would have enough savings between them to be able to purchase two or three canoes and outboards, but this is by no means certain. Even if they have this money the canoes and motors should be ordered well before spring so that they can be delivered in time for use during the summer. This emphasises the point made earlier that the timing of a movement of people to the Island will be of great importance.

Finally, the same general remarks apply to the supply of dogs. Without dogs immigrants will be entirely dependent on the Islanders or the Government for sustenance during their first winter.

Two Eskimo Peterheads at Coral Harbour. Boat on right was severely damaged during summer of 1961.

Launching the Peterhead "Akpa" at Snafu. This boat was used by the Survey to travel to Repulse, Duke of York and Wager Bays.

CHAPTER IV

OTHER RESOURCES AND OPPORTUNITIES.

The movement of people off the Island in search of opportunities elsewhere has already been noted, and these movements may be expected to continue unless there are compelling reasons for stopping them. They may decrease if the resources of the Island are developed to the extent that Southampton itself affords attractions enough to hold the population. Within the Hudson Bay area there are few opportunities and certainly from the point of view of subsistence Southampton has much to offer. At the present time, it is reasonable to assume that people will in fact return to the Island from Rankin.

In so far as other resources on the Island are concerned, these are few but some are capable of further development which will be discussed shortly.

There is no soapstone available locally, and the Island is not so far considered as an area of mineral potential.

Blueberries occur and are consumed by the people but there are no large concentrations of berries which would warrant a development scheme.

Among the potential developments which would require outside assistance and investigation are:

(1) The introduction of caribou.
(2) Horticulture.
(3) Commercial fishing.
(4) Specialty foods.
(5) Tourism.

(1) The Introduction of Caribou.

There are no caribou on the Island at the present time, the last one having been killed in 1957. There is a herd numbering about 700 on Coats Island and the Eskimos take a few of these animals in the summer time. While no range studies have been carried out on the Island there is no doubt that a start could be made on building up a herd. C.W.S. believes that a herd of at least 3,000 could be built up without the need for a range study beforehand.* The value of a herd of caribou as an additional resource for the Islanders needs no labouring here. The idea of transporting caribou or reindeer to the Island has been mooted in the past, and the Canadian reindeer herd has been favoured by some advocates, the Coats Island herd by others. The matter appears to be at least semi-moribund at present, and this may be due partly to diffusion of effort and interest - no one agency is responsible for a thorough examination of the mechanics and rationale of the operation.

* Dr. Tener, C.W.S. Personal Communication.

The development of a plan to introduce a herd to the Island might proceed as follows:

(1) The Canadian Wildlife Service should be asked if they can arrange for a range study to be carried out within the next five years.

(2) The study of the rationale and mechanics of the operation should be made the responsibility of one agency or person (preferably familiar with the previous investigations and suggestions) who would also be responsible for determining the most efficacious way of carrying out the move. This agency or person should also decide, in consultation with others, whether the animals should be free ranging or herded and note the management and other problems associated with each.

(3) When (2) is under way advance notice should be served on the Islanders that the introduction of the herd is contemplated, and an education programme initiated. The theme of the programme would, of course, be wise use and sustained yield of the herd.

There seems to be no reason why such plan could not be initiated immediately with a view to placing the first animals on the Island within two years. The sooner such a programme gets under way the better because it will take several years before exploitation of the herd would be permissible.

(2) Horticulture

The Roman Catholic priest maintains a greenhouse in which he grows lettuce, and the practicability of growing vegetables this way in the Arctic has been amply demonstrated elsewhere. During the Survey some Eskimos evinced an interest in the idea of growing their own vegetables but how deep this interest really lies remains to be seen. Horticulture would be something new to them and it would take time and patience to explain its value and practices. Not all Eskimos have a taste for fresh vegetables and all those who have may not be willing to perform the detailed tasks necessary for success.

More information would be needed on the techniques and equipment required for successful vegetable growing under local conditions and the the co-operation of the Department of Agriculture would be invaluable in this respect.*

Initial developments could take the form of two experimental pilot projects:

(1) A school garden.
(2) A project for adults.

* The possibilities of horticulture have been discussed with Mr. F. Nowasad, Special Assistant (Arctic Agriculture), of the Department and he had indicated that such co-operation would be given willingly.

One difficulty of a school garden would be that the short growing season occurs during the school holidays, but the principle of the school garden should be applied, i.e. children only.

For experimental purposes both hot and cold frames and a greenhouse should be envisaged. Cold frames present no special difficulty, and it is understood that there would be some energy to spare from the powerhouse to heat hot frames and a greenhouse.

The projects would have to be experimental in nature for some years in order to determine the most suitable types and varieties of vegetable and to discover the most appropriate cultural practices.

(3) Commercial fishing.

(a) Frozen fish. The problem of a quota for the South Bay area has already been noted. This problem is not so serious in the Duke of York Bay area in which no fishing has been done in the last few years. Two major rivers enter the Bay, the Thomsen in the north and the Cleveland in the south, and both are reported by the Eskimos to be good fish streams. The results of the test netting carried out in the area during the Survey do not provide sufficient information about the fish population on which to base concrete plans for a fishery. Consequently, any commercial fishing undertaken would have to be of an experimental nature to provide more information on the fish stocks. In view of the fact that it will be desirable to encourage seasonal harvesting of other resources in the Bay during summer if more people come to live on the Island, a commercial fishery would be a useful source of cash income to the people involved. It would take, therefore, at least two years to establish the economics and modus operandi of such a fishery. As the channels in the Bay have not been charted a hydrographic survey would have to be undertaken as a preliminary to ships entering the Bay.

(b) Canned fish. The operation of a small scale cannery in either South Bay or Duke of York Bay is a possibility worth considering. Details of costs and organization have yet to be worked out fully, but discussions with Fisheries Research Board technologists suggest that a cannery would be much less expensive to set up and operate than a freezer, and could operate economically on a smaller quota of fish.

One of the important advantages of a cannery would be that it would afford a good method of preserving fish for local consumption. The disposal of any surplus would be a matter for further market research. During the Survey many Eskimos were asked if they would buy fish in the event that they did not have any for some reason. The answer was always an unequivocal "no", which might suggest that there would be no local market for canned char. This is not necessarily the case - the Eskimos buy canned salmon and other fish in the store. Furthermore, experience elsewhere, Fort Chimo for example, has shown that Eskimos will buy local fish under certain circumstances. Obviously there is

little need for an Eskimo on Southampton to buy dried fish as he can obtain all he needs by his own efforts. But he has not yet had the opportunity to buy canned local char and there is reason to believe that provided he has the money he will do so.

Future development of commercial fishing will await further examination and appraisal of the fish population, and the techniques and economics of canning.

(4) Specialty food items.

Investigations carried out by Industrial Division staff in other Arctic areas have shown the feasibility of processing some food items into quality products for sale in southern Canada. Seal livers are but one example; a remarkably tasty food, these are regarded by the Eskimos themselves as a delicacy. While much work remains to be done on market research and the techniques of processing and packaging, these specialty food items are a promising future possibility. In the meantime, preliminary work might be undertaken on the Island into ways and means of collecting and inspecting these foods.

(5) Tourism.

Interest in the north as a tourist area has grown significantly in recent years. A well organized small tourist industry on Southampton would add to the money incomes and help to diversify the economy. The development of a tourist trade would require careful planning and groundwork. No matter whether the tourist is interested in hunting, sightseeing, or rambling, and no matter how willing he may be to "rough it", the end in view is enjoyment - enjoyment of a change of environment and company. The organization of a tourist venture must aim at securing this enjoyment, and some of the relevant factors are reviewed below.

(1) Accessibility - During the summer of 1961 Trans-Air scheduled two flights per month to the Island from Churchill, weather permitting. It is understood that the company was contemplating extending the summer schedule into the winter. Four or five ships call at Coral Harbour during mid-summer.

(2) Climate - Generally speaking, the period from break-up (about mid-July) until about mid-August may be sunny and pleasant, but windy. Thereafter, storminess increases. It is believed that this will militate against tourism after the end of August. The climate has been described as "distinctly less pleasant than on the Keewatin mainland to the west. This is particularly true in summer, when the surrounding cold seas cause much low cloud and fog and keep the mean summer temperatures around 43 to 46 degrees F.",* but other visitors to the Island have enjoyed excellent weather during the summer.

* Bird, 1953, p.1

(3) Physiography - The eastern half of the Island is composed of Shield rocks forming uplands, quite scenic in places, which rise to over 1,000 feet. The western half is an extensive limestone area which rarely rises above 250 feet. The most scenic area within relatively easy reach of Coral Harbour is to be found in the vicinity of the Kirchoffer Falls. The Kirchoffer River is a favourite fishing ground at present. Most of the rivers entering the South Bay area are attractive, though not spectacular, in their lower reaches.

The north end of Duke of York Bay shows promise from the aesthetic point of view. There is a sheltered harbour for small boats and small aircraft (float equipped), and a pleasing scenic contrast is provided by the backdrop of the hills to the east and the low-lying land to the west. About a mile to the north west of the harbour a large drumlinoid feature is found at the south end of a linear lake several miles long. Along the lower east shore of this lake there is a remarkable terrace-like feature composed of gravel and rising to about fifty feet above the level of the lake. This would make a good camp site. There are prospects in this area for fishing, marine mammal hunting, boating, and rambling. Its main disadvantage is that this is about 100 miles north of Coral and not inhabited at present. To enjoy this area the prospective tourist would have to make a considerable cash outlay, make his arrangements well ahead of time, and be prepared to be self-contained with regard to all his equipment and food.

(4) Game - The taking of land animals is governed by the N.W.T. Game Ordinance which prohibits the killing of these animals by non-residents. The harvest of marine mammals is governed by the Fisheries Regulations, but it may be possible to negotiate for a relaxation in these Regulations which would permit a limited bag to be taken by non-residents. There are no difficulties of this nature connected with fishing.

Walrus - Tourist enjoyment of two kinds of walrus hunting has been suggested:

(a) Hunting around the floe-edge in springtime. While it is known the walrus are sometimes taken at the floe-edge in spring it may be emphasized that this is largely a fortuitous by-product of seal hunting. However, hunts at this time of year could probably be arranged.

(b) Peterhead hunt. The Peterheads are put in the water after break-up, and walrus hunting awaits the departure of the ice from Fisher and Evans Straits. Some sport hunting for walrus might be possible during the period from break-up until about mid-August. The major guarantees to be given to the tourist would be (a) a sound and well run boat, and (b) a sound and well maintained engine. The fact that Peterhead trips can turn into life or death affairs in stormy seas far from shelter cannot be overstressed. It should also be remembered that ships can be expected at any time during the period mentioned and that the Peterheads are required for the purpose of lightering. The

whole idea requires careful evaluation, and the Eskimos should be consulted well ahead of time in order that their reactions may be gauged.

Seal - The hunting of this animal could provide tourist enjoyment. Unfortunately, the period up to mid-summer, when the weather is best for the tourist is also the season when the seal sinking rate is highest. In view of the fact that the use of nets by Eskimos is to be encouraged during this season, care must be excercised to ensure that the sinking rate incidental to tourist hunting is kept to a minimum.

Whales - Whale hunting may provide a successful tourist attraction. The chance of sighting whales in the South Bay area during the summer are good, but the best period for tourist whale hunts should be determined more exactly. Generally, experience gained in whale hunting as a sport elsewhere might be used as a guide to the organization of such a project.

In summary, sport fishing has potentialities, and in the early stages should be developed in the form of self-contained camps. The hunting of marine mammals offers some potential, but would require careful organization, preparation, and efficient techniques.

(5) Another aspect of tourism concerns that of the tourists who come merely as sightseers, and these are not uncommon in Coral during the summer shipping season. Also, employees at the D.O.T. installation frequently walk over to the settlement during the summer. A small handicraft shop as part of a co-operative could be set up to attract some of the custom of this potential market.

(6) The question of general catering may be discussed from the standpoint of (i) accommodation, and (ii) staff. The tourist trade is a fairly sensitive one, and a dissatisfied tourist can easily damage the trade's future prospects. It will be necessary to create the facilities which make a good impression and add to the tourist's total enjoyment during those periods when he is not fishing, hunting, or rambling. Before and after hunts, and during those periods when poor weather prevents hunting or other activities, the tourist will wish to relax in pleasant and comfortable surroundings. The nature of these surroundings will be part of the memory the tourist will carry away with him. Regardless of the fact that a tourist may be willing to undergo hardship and discomfort while hunting or fishing, he is unlikely to be favourably impressed if his base quarters are a leaky, ragged, and unserviced tent.

(i) The accommodation could take either of two forms:

(a) A lodge containing sleeping, cooking, and dining facilities, and adequately supplied with sanitation and water supply services. The cost of providing this would be very high and the construction of a lodge is not recommended.

(b) Locally made tents with certain modifications to the design would be suitable. If carefully sited, properly set up, and suitably furnished and serviced, tents can provide attractive and comfortable quarters. No insurmountable difficulties with regard to servicing need be anticipated. Tents would form a suitable basis for a pilot project as they are transportable and may be stored away during the winter. For a permanent project they are no less advantageons. A camp can be added to, relocated, or otherwise modified provided sufficient advance notice is given.

As the tents would be manufactured locally they would provide cash to some of the local women. The camp (s) should be co-operatively owned by the Islanders, the tent rentals going into the co-operative coffers.

(ii) If results from a pilot project were encouraging, and further development envisaged, arrangements would have to be made to train cooks and tent servants capable of catering to more sophisticated tastes. At the present time no such personnel are available on the Island, and in addition there is the language barrier.

(7) There is one final comment to be made. The Eskimos are familiar with scientific and other expeditions in which they have hired out their services and equipment and they appear to have an understanding of the aims and objects of these expeditions. An expedition organized for sheer enjoyment will be something new to them, although we may reasonably suppose that they will appreciate the sport tourist's motives. It is necessary to be aware, however, that there is a distinction to be drawn between payment for work which would not normally be carried out, such as banding geese or transporting an ornithologist to the Boas River, and payment for doing something which would have been done whether or not a tourist was present. A subsidy is inherent in the latter. If people are willing to subsidize the Eskimo's normal activities in the course of broadening their own experience of what the world has to offer then there is no reason to discourage them. In fact it is easy to argue in favour of the subsidy. The possible implications of this are not clear, but any situation which would add to the Eskimos' belief that the "Kabloona" is a source of largesse dispensed with a free and generous hand should be avoided.

Clearly, the development of a tourist enterprise would require imagination, careful organization, and forethought. On balance, if due regard is given to the foregoing points, tourism could provide a profitable addition to the Island's economy.

CHAPTER V

CONCLUSION AND RECOMMENDATIONS

Two major conclusions emerge from the foregoing study:

(1) On three counts - improved resource harvesting, improved resource utilization, and improved handling of money incomes - it would be possible for the Islanders to improve their standard of living. Alternatively, on the same counts, it would be possible for the Island to maintain a larger population. Ideally, both a higher standard of living and a larger population could be achieved.

(2) For the present, and in the near future, the Islanders are not faced with a severely depressed economy nor a near-starvation level of subsistence. The resources of the area coupled with wage work will secure them against extreme want.

Nevertheless we should take into account the fact that the population of the Island is slowly increasing and bear in mind that the outlook for wage work elsewhere is not promising. It is to the resources of the Island that the Islanders will have to look for their livelihood. And on the Island itself there are signs of a change for the worse. Bulk handling of fuel cargo will reduce money incomes, several large boats are now so seriously damaged as to limit their usefulness to the community, certain sources of wood for fuel are nearly at an end, and the fox cycle has passed its peak. All these, taken collectively, foretell a period of reduced earnings and difficult harvesting conditions with, perhaps, hardship for some members of the community.

If there is an influx of population, even a relatively small one (say five families), this would exacerbate the situation for reasons previously noted.

With this forewarning it would be well to be prepared with plans designed to alleviate any distress. The nature of possible developments which would bolster and diversify the economy have already been suggested in the body of this report and it is only necessary here to consolidate them as recommendations and add one or two relevant comments. Before doing so, there are several matters which require a little further consideration at this point.

Considerable attention has been paid so far to loss and waste within the economy. One reason for the occurrence of waste is the fact that harvesting takes place over a wide area, and the products of the harvest are not always brought back to the settlements for distribution and use. The system of cacheing near the trapline and "randon harvesting" (e.g. of bears) makes a certain amount of waste unavoidable - unavoidable in the sense that to obviate it or reduce it might require a system or organization

not suited to the overall economy. Waste is a difficult thing to define in ecological terms, and we are dealing with a socio-economic system which operates within a tight ecological framework involving man and nature. Much of the waste previously discussed enters into and plays an important part in this ecological framework by providing carrion food for foxes, bears, fish, and dogs. This highlights the need for more accurate determination of the amount of true waste.

With regard to the export of handicraft and food items, it is perhaps desirable to have some guiding principle with respect to possible developments of these phases of the economy. It is a matter of experience in the north, as in other under-developed areas that money sometimes assumes a place of inordinate importance in the lives of the people. This is partly due to the fact that even in societies which have operated along lines based on communal ownership money is regarded as personal property; and it has been clearly demonstrated that money provides the easiest means of acquiring all manner of desired goods. In this connection we may recall that a basic feature of the Eskimo economy is non-ownership of natural resources; that is to say land, foxes, walruses etc. belong to everybody. But once a resources has been exchanged for cash the cash is personal property. The importance of this in the present context is that resources which might be better used in some other manner may be turned into money, and this money may be spent not too wisely. If plans are made to develop handicraft and food products as sources of income these plans should be based on the knowledge that there is a true surplus and that the functional equivalent of the goods sold can be acquired at a much lower price than was obtained by the sale of these goods. For example, a walrus tusk carved into a handicraft item for sale at $10 represents good use of the tusk, since the functional equivalent of the item of equipment which could have been made from the tusk can be acquired for much less than $10. On the other hand, it is not difficult to imagine country foodstuffs being sold and the proceeds from the sale being used to buy much less nutritious foodstuffs or luxury items such as expensive watches. While too much stress need not be laid on the possibility of such undesirable side-effects it is necessary to be aware of them and be prepared to try to counter them.

As has been indicated in the body of this report, accurate assessment of the efficiency of the total economy presupposes two things: (a) knowledge of all the uses to which any particular resource may be put, and (b) quantitative data on the portions of the various resources required for each use. Unfortunately, not even persons with long resident experience in the Arctic can always supply (a), and (b) is almost non-existent. One function of any plan for the development of any resource should be to make good these deficiencies.

The need for community planning, both physical and social, has been shown clearly in an earlier chapter. In order that physical planning may be carried out effectively it is necessary to have accurate information on the physical attributes of the settlement site. In recognition of this need the Department of Northern Affairs started a Settlement Site Survey about three years ago. This Survey, which is nearing completion, and which includes every settlement in the Canadian Arctic, will provide the essential information for physical planning.

The social side of community planning is not yet so well advanced. For the Islanders to prosper and make better use of their resources greater emphasis will have to be laid on community and co-operative enterprises which will involve the Eskimos in social and economic decision-making. So far, the only public institution on the Island capable of imbuing an interest in community matters is the school. The school can be a valuable tool for tempering and reducing the less desirable features of the ethnic and religious divisions, and can strongly influence the process of assimilation. But the school is not enough. There would be merit in promoting some sort of village council capable of taking an active part in community development. It is recognized that the social aspects of community development are complicated and involve many imponderables. The development of local leadership, community enterprise, and understanding of the needs of modern economic activities will all take time, patience, and understanding of the local social and economic systems. It is clearly impossible to declare that a certain approach will be adopted without modification in every community. A statement of the kind of approach to this problem which has been applied with promising results in other parts of the Arctic will be found in the Addendum, "The Role of the Industrial Division in Community Development".

Finally, the need for example, demonstration, education in the broad sense, and sometimes supervision, in various developments cannot be overstressed. Experience has shown that the Eskimo often follow example, and appreciate demonstration; but supervision may still be necessary to ensure that the lessons of the example and demonstration are driven home.

Recommendations

Recommendations are presented below under four major heads. The first three groups of recommendations would apply whether or not there is any influx of additional population. The fourth group refers particularly to an "immigration" movement. If there is no influx of population emphasis should be laid on improving total utilization of resources; but if there is an influx improved utilization should be coupled with extension of the harvesting area.

The recommendations contain suggestions for extending and expanding the economy over a period of a few years by (a) improving resource utilization, (b) making available certain capital equipment, (c) diversifying the economy, and (d) increasing cash incomes.

Whether or not the recommendations can be put into effect will depend on the availability of staff, and priorities in other areas.

I General Recommendations*

These involve further investigation by specialists and appropriate agencies.

It is recommended that:

(1) The introduction of caribou to the Island be investigated along the lines suggested in p. 63.

* On the following pages the recommendations are described only in a brief qualitative way. Recommendations submitted for official consideration must be accompanied by detailed descriptions of costs and operations. By way of illustration a detailed recommendation is included in Appendix C.

(2) The economic feasibility of sealskin tanning be determined by means of an experimental pilot project. If economic feasibility is proved by means of an experimental project elsewhere then a pilot project should be set up on Southampton Island as soon as possible.

(3) The use of marine oils as fuel be the subject of further scientific investigation.

(4) The development of co-operative enterprises be promoted by means education and technical help provided by specialists.

(5) The training of Eskimos in the principles of game management and recording, improved harvesting techniques and improved preservation methods, be considered for inclusion in vocational training programmes.

II Recommendations affecting primary activities.

It is recommended that:

(6) That a vessel of larger capacity than a Peterhead be made available to the Islanders. This vessel would be used for resource harvesting, and administration. It would be particularly useful for further investigations in the Duke of York Bay area. The boat would provide work for a crew of three when used for biological studies, administrative purposes, or tourism. In the course of a season it could be used by 20-30 Eskimos for hunting sea mammals and at least one season's operations would be required to establish the most satisfactory rental rate for this purpose.

(7) The Industrial Division's food specialist make a study of the ways and means of improving food preserving and processing on the Island. His study should include the possibilities of conserving blood, offal, and bones for processing into dog food.

(8) Seal nets be made available to the Eskimos in order to reduce the loss of seals through sinking, and increase the netting of whales.

(9) Plans be made to set up a commercial fishery using

(a) a freezer in the Duke of York Bay area, or

(b) a cannery in the South Bay area, or

(c) both, if there is an influx of population and seasonal harvesting of Duke of York Bay is to be carried out.

Commercial fishing would give employment to 10-15 men and women, help to diversify the economy, and provide an additional source of cash income.

(10) Facilities be made available to the Eskimos for repair and overhaul of their boat engines and motors. These facilities could take the form of a small machine shed in which the Eskimos could overhaul their equipment. The shed should be equipped with a minimum stock of essential tools. The D.N.A. technician should be invited to control and supervise the operation of this machine shed and provide some training in the principles and techniques of good maintenance and overhaul.

(11) An experimental horticultural project be set up to determine the possibilities of growing a variety of vegetables under local conditions. This project would involve 5-6 adults, and 10-15 school children initially and would be aimed at providing an additional source of food. Control and direction would be vested in the Department, and the local Administrator and school teachers should be requested to co-operate in the management and organization.

III Recommendations affecting secondary activities

It is recommended that:

(12) The handicraft phase of the economy be extended to provide a substantial increase in cash income from this source, and expanded to include production of articles made from tanned sealskins. 50-60 people would be involved in the work, of whom 10-15 would form a core of skilled workers initially. The guidance and technical help of the Division's handicraft specialists will be required in this development.

(13) Provision be made for the building of a handicraft centre which would serve as a physical focus for handicraft work, as a handicraft shop during the tourist season, and as a co-operative headquarters.

(14) Provision be made for the development of a tourist venture starting in 1963. Development of this project could proceed along the lines suggested in pp. 66-69. This venture would help to diversify the economy and provide an additional source of cash income. In view of the fact that there are other areas in Keewatin where the need for the benefits which would flow from a tourist industry is more pressing a low priority should be accorded the development of tourism on Southampton Island.

IV Recommendations affecting an influx of population

Presumably the decision to move more people to the Island will be made elsewhere after consultation and discussion with potential "immigrants". For the purposes of project planning it will be necessary to have certain information about the people who elect to make the move. This information should be compiled as soon as possible and should include the following details:

(i) Religious and ethnic affiliations.

(ii) Usual occupations and skills, and attitude towards living off the country.

(iii) The amount of material possessions and savings of the individuals concerned. This should include the number of dogs, canoes, outboard engines, traps, etc.

(iv) Their attitude towards co-operative ventures.

An influx of additional population could take place in one of three ways:

(a) An uncontrolled influx whereby people move in and find their own level within the prevailing socio-economic system.

(b) A semi-controlled system whereby arrangements are made to receive the people and plan various phases of their future activities.

(c) A fully controlled scheme involving a high degree of planning of future activities and settlements.

It is recommended that:

(1) Immigration should take place under a semi-controlled system.

(2) The number of "immigrants" be limited to not more than 10 families (about 50 people) in the early stages, and until such times as various development projects are under way.

(3) Emphasis be placed on the extension of the area of resource harvesting.

CHAPER VI

NOTES ON REPULSE AND WAGER BAY

The Area Survey visited Repulse Bay and Wager Bay during late July and early August. In the time available it was not possible to carry out investigations on the same scale as on Southampton Island. The following remarks comprise a summary of some of the information obtained during this part of the Survey.

The settlement at Repulse Bay comprises an H.B.Co. trading post, a Roman Catholic Mission, and a few very inadequate Eskimo shacks. The post serves the trading needs of about 165 people who have winter or summer quarters extending over a wide area from Lyon Inlet in the east, to the southeastern coast of Committee Bay in the north, and to Wager Bay in the south. There has been an increasing tendency for the population to concentrate near the post in recent years; and several of the more enterprising families have left in search of opportunities elsewhere, some having gone to Rankin Inlet.

During the summer the Eskimos live in tents scattered along the coast in areas where there are good supplies of fish. In winter they live either in shacks or snow-houses. By the end of the winter these shacks are surrounded by a noisome accumulation of garbage and an untidy clutter of scrap.

Generally speaking, the material capital of the people is lower than on Southampton Island, and the people seem to be much less "sophisticated" than the Islanders - due perhaps to less intensive contact with the white man's culture.

The mainstays of the cash economy are fox furs, sealskins, and soapstone carvings. While an undetermined degree of waste presumably attends the use of various resources, it appears that the people depend more heavily on country resources to supply them with food, fuel, and clothing than do the Eskimos of Southampton Island.

The Manager of the H.B.Co. post estimated that the take of local animal resources during 1960-61 amounted to:

2,500 seals (including square-flipper)
100 white whales
250 caribou (mainly in the Wager Bay area)
6 polar bears.
550 foxes (including 100 from the Wager Bay area).

Birds play only a small part in the local food economy, but fish are abundant in the summer time. Few walruses are taken.

Figures concerning the total incomes from various sources are not available, but sufficient is known to obtain a rough idea of

the relative importance of the various resources in the cash economy. In 1960-61, approximately 12,000 stone carvings were traded for about $14,000 - about one and one-half times the value of the fox pelts traded. About 600 sealskins were traded at an average value of $3.20 thus providing an income of about $2,000.

According to the H.B.Co. Manager little fox trapping has been done in recent years owing to lack of traps, and lack of organization and initiative on the part of the Eskimos. Some of the Eskimos claim that the area is not a good one for foxes, but on the other hand they do not start trapping until late in the season - most of them start trapping just before Christmas. With encouragement and persuasion they could, no doubt, gain a larger income from fox furs.

Some of the Eskimos also claim that they are short of dog food, and this may well be true as they have only three small whale boats and must travel far from the settlement to find walrus. However, they could doubtless increase their stocks of dog food by camping farther afield along the coast during the summer. Even so, the shortage of large boats is a serious handicap.

Of interest is the fact that five men made a trip to Opposite Island (off the southeast coast of Vansittart Island) in February. They took 75 foxes and plan to go again early in 1962, taking more traps. They expect to have a more successful year as a result of the experience gained in 1961.

The soapstone carving is done mainly by the women although the men do some carving between trapping trips. Carvings supply the largest source of income at the present time; but most of the carvings are small, of low value, and not good examples of the workmanship which is normally associated with Eskimo carvings. They lack the fine quality of expression which flows from the good carver's primal sympathy for the thing portrayed. The carvings produced in Repulse appear to result less from an artistic urge than from a desire to earn a quick dollar.

The whales, caribou, and seals (apart from the traded skins), are used locally for food, clothing, and fuel. Considerable dependence is placed on local resources for subsistence in view of the low level of cash incomes.

Three families (13 people) are at present living in the Wager Bay area throughout the year.* Tents and snow houses provide their

---

* For an interesting account of these people see: "Report from Wager Bay" by R.G.H. Williamson, North, Vol. VIII, No. 5. 1961.

Eskimo shack at Repulse Bay

Fox and caribou, Wager Bay, Aug. 1961

summer and winter quarters respectively. This group may well be most isolated in the whole Keewatin region, and they maintain themselves by using the local resources for domestic use. By their own reckoning their harvest in 1960-61 included:

48 foxes
30 caribou
2 white whales
30-35 seals
birds and fish in unknown quantities.

Except in the case of whales, these figures are probably not accurate. The H.B.Co. Manager at Repulse recorded 100 foxes traded by this group, the take of seals and caribou was probably higher than indicated above.

Obviously these people have little money income, and their material goods reflect this. Their clothing is made largely from country materials, they have little store-bought food, and only one or two small luxury items (including the inevitable clock). However, they give the impression of being healthy and very happy. Among their equipment they have two 20 foot canoes but no outboard motors - sails are used whenever weather and sea conditions permit.

Although further work remains to be done to establish the population dynamics of the land and sea resources of the Wager Bay-Repulse Bay area it is safe to say that some resources are at present underexploited. These include:

(1) Walrus east and south of Repulse Bay. A large herd of walruses was seen by the Survey a few miles north of Wager Inlet, (see photo p. 45) and local informants believe that this herd frequents the same area every year.

(2) Whales in Wager Bay. A large school of white whales was sighted by the Survey in the vicinity of the Paliak Islands off the south shore of Wager Bay. Whales are reported to frequent the Bay every summer.

(3) Eider ducks on the Savage Islands on the north coast of Wager Inlet.

(4) The Duke of York Bay area would be accessible to the people of Repulse Bay in the summer time if they had larger boats.

(5) In both Repulse and Wager it is likely that the fish stocks could support a commercial fishery. Further work remains to be done to confirm or deny this.

(6) While the status of the fox and caribou populations is not known with certainty it appears likely that these could make a greater contribution to the overall welfare of the people if they were pursued with more enterprise and initiative.

Conclusion.

Although the people of the Repulse Bay-Wager Bay area have a low material standard of living they seem to be living at a level of general welfare acceptable to themselves. When talking with them, one gains the impression that they feel they have few problems and that they are reasonably content to make their living from the country resources. Some of them, however, have evinced an interest in the possibility of having access to larger boats. Their desire to live near the post, must, if fullfilled, be accompanied by greater mobility in order that they can range farther afield.

The white members of the community say that the local Eskimos lack leadership and initiative, and that the country resources are capable of providing a higher standard of living than prevails at present.

There is, of course, the possibility that some Repulse people now at Rankin might wish to return to Repulse if the Rankin mine closes.

Consequently, although there is no emergency or state of acute depression in the area, steps could be taken to encourage the local people to exploit their local resources more productively. To some extent, developments in Repulse and Wager could be aligned with developments in Southampton Island. For example, a large departmental boat based at Coral Harbour could, on occasions, be used for harvesting marine mammals in Repulse and Wager Bays for the benefit of the people in these areas. Similarly, if a sealskin tanning plant is set up on Southampton this plant could process skins from Repulse and return them for handicraft production. If seasonal harvesting of Duke of York Bay is not carried out by Southampton people it could be undertaken by Repulse people. A fishery in Duke of York Bay or Wager Bay could be operated by men from Repulse. At an early date some attempt should be made to improve the quality of handicrafts produced in Repulse. Finally, the help of the local white members of the community in the matter of developing local leadership would be invaluable.

Given incentive, access to better capital equipment, and some technical advice and guidance, there would seem to be little reason why Repulse and Wager Bay should not become efficient resource-based communities. Nor is it unrealistic to foresee the development of projects and activities which would link Southampton, Repulse, and Wager, on a regional basis. The resources of the area are adequate to sustain a thriving viable economy.

Selected References

Bird, J.B.: Southampton Island, Memoir No. 1, Geographical Branch, Department of Mines and Technical Surveys, Ottawa, 1953.

Branhofer, Max: Field Investigations on Southampton Island and around Wager Bay, Northwest Territories. 1956, McGill University, Project Rand R.M. 1936.

Loughrey, A.G.: Preliminary Investigations of the Atlantic Walrus, Wildlife Management Bull. Ser. 1 No. 14, Canadian Wildlife Service, Department of Northern Affairs and National Resources, Ottawa, 1959.

Mansfield, A.W.: The Walrus in the Canadian Arctic, Circ. No. 2, Fisheries Research Board of Canada, Montreal.

McLaren, I.A.: The Economics of Seals in the Eastern Canadian Arctic, Circ. No. 1, Fisheries Research Board of Canada, Montreal, 1958.

------- and Mansfield, A.W.: The Netting of Sea Mammals, a Report on the Belcher Islands Experiment. Circ. No. 6, Fisheries Research Board of Canada, 1960.

Manning, T.H.: Some Notes on Southampton Island, Geog. J. 88, 1936.

----------: Remarks on the Physiography, Eskimos, and Mammals of Southampton Island, Can. Geog. J. 24, 1942.

----------: Hunting implements and methods of the present-day Eskimos of northwest Hudson Bay, Melville Peninsula, and southwest Baffin Island, Geog. J. 103, 1944.

Robinson, J.L.: Eskimo Population in the Canadian Eastern Arctic, Can. Geog. J., Sept. 1944.

Sutton, G.M.: The Exploration of Southampton Island, Hudson Bay, Mem. of the Carnegie Mus. Vol. XII part I, Carnegie Institute, 1932.

Van Stone, J.W.: The Economy and Population Shifts of the Eskimos of Southampton Island. Northern Co-ordination and Research Centre, Department of Northern Affairs and National Resources, Ottawa, 1959.

Canada's Eastern Arctic, Department of the Interior, Ottawa, 1934.

A report on the Physical Environment of the Quoich River Area, Northwest Territories, Canada, McGill University, 1955, Project Rand R. M. 1997.

See also references at the end of Chapter 1.

ADDENDUM

THE ROLE OF THE INDUSTRIAL DIVISION IN COMMUNITY DEVELOPMENT

by R.A. Jenness, Head, Area and Community Planning Section.

"Community development can be tentatively defined as a process designed to create conditions of economic and social progress for the whole community with its active participation and the fullest possible reliance upon the community's initiative. "Community development" implies the integration of two sets of forces making for human welfare, neither of which can do the job alone: (i) the opportunity and capacity for co-operation, self-help, ability to assimilate and adopt new ways of living that is at least latent in every human group; and (ii) the fund of techniques and tools in every social and economic field, drawn from world-wide experience and now in use or available to national governments and agencies."

The above definition of community development, taken from the UNESCO publication "Social Progress through Community Development" is the one used throughout this paper.

The Industrial Division's activities involve the fostering of community development in many ways. The work of the Division is thoroughly integrated, and on-the-spot consultation and discussion of programmes involving projects, co-operatives, area surveys, etc. are readily carried on. Officers from each section of the Division frequently travel into an area together and work together on a project; specific projects form the core of much of the Division's work. Among other things, an area survey examines scientifically the resource prospects of an area, and after consultation with the local people, recommends suitable self-help projects which are developed with the assistance of Projects and Co-operative Development officers. Industrial Promotion officers find outlets for the produce in northern and southern centres.

Industrial Division's Approach to Community Development

The heart of this Division's approach, and the basic purposes it espouses include: (1) All projects undertaken by Eskimos and Indians must ultimately be self-supporting, (2) they must provide a satisfactory economic return to the people themselves. (3) they must ultimately be managed and entirely controlled by the people themselves.

To achieve these aims the role of the Industrial Division may be summarized as follows: (1) to bring to an area a scientific assessment of the renewable and other resources by qualified people trained in such fields as wildlife management, marine biology, economic geography, etc.; (2) to put before the people and get their acceptance to the advantages of specialization, of new techniques, tools, machinery, and other equipment which will enable them to harvest more efficiently

their resources; (3) to enlist the voluntary support of local Eskimo and Indian people, motivate them towards promising projects, and to encourage them to take the lead in developing and managing such projects; (4) to suggest and develop new techniques and equipment specially adapted to Arctic and sub-Arctic conditions and to the particular projects recommended in the survey request; (5) to develop through improved advertising, publicity, market surveys, etc. markets locally or in the south for the distinctive items these people produce or might produce; (6) to suggest to local Eskimos and Indians unique industries or products which reflect their artistic creativity or use indigenuous resources, in which southern buyers would be interested; (7) to advise southern businessmen of investment opportunities in specific communities, to encourage their employment of local residents, and to foster the growth of tourist activity northward; (8) to introduce and get local acceptance of modern controls over such things as housing sanitation, fire hazards, etc. thereby improving local health and safety and reducing the distressingly high incidence of infant mortality; (9) to withdraw gradually all government technical and financial help, other than the customary assistance and guidance given to business and community enterprises in the north generally, so that the people become completely responsible for the production, management and marketing of their own goods.

Local Participation and the Role of Industrial Division Officers

In carrying out its programmes the Industrial Division elicits local help and ideas at all stages. Eskimos are employed in carrying out the initial area economic survey, they take part in test fishing and timber cruising, and so become acquainted with the purposes and scientific methods used in establishing new industries. All surveys involve interviews with local people to determine their desires, their living habits, housing conditions, what type of equipment they own, their personal views on ways and means by which their community could improve its lot. Any special skills are taken into account -- as, for instance, the existence of several trained boat and canoe builders at Great Whale River together with the obvious need for these craft along the east coast of Hudson Bay called forth the recommendation that a small canoe and boat building project be established in that settlement.

If there are inadequate local resources the people may be encouraged to leave their traditional settlements. Alternatively, area surveys may show advantages in bringing people from their outposts into completely new settlements where they can better specialize and diversify their efforts. A striking example of this is at George River, on the east coast of Ungava Bay. There, through the people's own volition a new community is growing based on the renewable resources (including a commercial char fishery) of the area. For many of its inhabitants, who have tended to live mainly in outcamps along the coast, this represents their first taste of living in a formal community. As the people assembled for the fishery, meetings were held to discuss where a new settlement might be located, how housing was to be built

and assigned and how the most immediate needs of the community were to be met. The Eskimos themselves took the initiative, selected their own site and took part in a logging programme during the spring of 1959, which resulted in a community hall being built that year, - the first wooden structure outside the local Hudson's Bay Company post, in the area. In 1960 they put up and framed a sawmill, and in 1961 they will be building six houses, a teacherage, a powerhouse and a resident administrator's house from local material, and have operating their first school.

After an area survey has been completed and its recommendations laid down, Project and Co-operative Development officers visit the area and present its findings to the local people. Using films, slides, other visual aids, interpreters and sometimes an Eskimo who has participated in similar projects elsewhere, these officers sit down with local groups and discuss how, through the use of new techniques or specialization, the people may make better use of previously neglected resources. The first visit of these officers usually takes place in late winter, where they acquaint the inhabitants with what is available in their area and what other people in other areas are doing with similar resources. Often the ventures such as the commercial fisheries at George River and Port Burwell, involve a wide range of modern equipment, boats, routines and work specialization which may be completely foreign to the native inhabitants. These ideas and instruments must, therefore, be introduced gradually and accepted by the community; and many meetings may be necessary to plan and implement the operation. Often there may be initial skepticism, many Eskimos believing that there is little they could be taught about fishing; however, once officers point to such things as filleting, glazing, packaging, all of which are necessary for fish to be exported to the south, the people soon realize the need for specialized guidance.

A major task of the Projects and Co-operative officers is to draw out the initiative of the Eskimos themselves. Care is taken to conduct group meetings so that ideas emerge from the people and everyone feels personally involved. Gradually the people assume more personal responsibility and confidence, and officers may often take a back seat at the meetings. At George River for instance the Eskimos themselves assigned the fishing areas for each family. When the young people there demurred at taking charge of the freezing and packing end of the operation, the local co-operative met and selected an older Eskimo to be responsible for this duty.

There is, of course, the inevitable problem about the overwillingness of Eskimos to say "yes" to almost any project or suggestion in order not to offend. This affirmation must be guided and channelled so that, besides merely agreeing to proposals, the people think about them personally and take the initiative in carrying them out. Once the project actively gets underway, the Projects officers assigned to the area not only gives instructions and delegates

responsibility to particular groups or individuals, but digs in himself on the job, thereby establishing his sincerity and rapport with the people. They, in turn, inevitably respond favourably and take their under-study work seriously so that ultimately they may take over the operation themselves.

Co-operative officers are also meeting locally to introduce the idea of co-operative management. Initially there is the informative and educational task -- literature is distributed and films and slides shown of Eskimos running their own projects and stores. Information is given in simple terms, and ideas and opinions from the people themselves are sought. Encouragement is given to the idea of decision by voting, a practice foreign to most Eskimos, but one which encourages participation by other than the leaders or heads of families. Ultimately the community itself must decide whether to form a co-operative or not; but in either case technical help on the project will be continued as long as the people want and need it. If a co-operative is formed, a local government official usually serves initially as secretary-treasurer thereby providing the link between the Industrial Division (which can find markets, order supplies, audit books, etc.) and members of the co-operative. Eventually this function will be carried out entirely by an Eskimo member of the co-operative and the venture itself will become truly autonomous. Co-operatives also offer an ideal vehicle for adult education and it is hoped in future to strengthen this facet of their activity.

While Industrial Promotion officers play a more indirect role in the community development process, their services are equally indispensable. By market surveys, personal interviews and publicity, they find markets in the south for goods produced by Eskimos and Indians in the north, -- luxury or specialty markets where only prestige items are carried and where prices are high enough to provide a substantial return to the native. Due to their efforts an enthusiastic demand exists for Arctic char, soapstone carvings and for many traditional Eskimo handicrafts, including parkas, sealskin slippers, mats, etc. -- reflected in more orders than the Eskimos can at present fill. These officers have played an equally important role in developing and selling such original new items as sealskin toys (which sold out in less than a day at the Canadian Handicrafts Guild in Montreal) and the now world-renowned Eskimo graphic prints. Tourism also has brought substantial income to several Eskimo communities, as interested sportsmen and fishermen have sought the thrill of Arctic angling, of hunting seal or photographing the splendours of the north, hiring Eskimos as guides and buying locally their handicrafts and carvings.

And finally, there are the community planning efforts designed to improve the health, morale and vigour of northern settlements. The present urban renewal scheme for Whitehorse is an example. There a Community Planning officer made a personal survey of the needs and motivations of people living in severe slum conditions on unauthorized

land, where disease, lassitude and lawlessness were reputedly rampant. On the basis of his interviews with virtually every family, and suggestions opined by these residents, an urban renewal scheme is now going forward -- which, if successful, will permit a wholesale voluntary movement of people to more spacious and attractive areas where they may secure good land, water and sewer, modest housing, etc. without financial burden either to themselves or to the local tax payers.

The Net Result

In all these ways, with money, technical assistance and encouragement from the Federal Government, Eskimos, Indians and other people of the north can now look forward to new ways of life which offer financial independence and individual self expression without violating drastically their cultural traditions. Community development of this kind - sound, scientific, down to earth and financially rewarding -- is in our view of the most vital importance, providing as it does the economic life-blood of a settlement. It is going ahead hand in hand with improved education and welfare, with new methods of construction, transportation and communications, and with vigorous mineral exploration and development activity. All these things augur well for the future.

For the present the Eskimos (and we hope soon the Indians in the N.W.T.) through their own co-operatives and their own projects, are playing a major role in determining their own future. And this in turn is contributing to a greater personal pride and self-confidence which in due course will enable both Eskimo and Indian to take his place in our industrial milieu on equal terms with people of any other ethnic origin.

APPENDIX A

Housing Construction Details and Number of Occupants, Winter 1960-61.

(See explanatory notes on pp. 91-93)

SOUTHAMPTON ISLAND, N.W.T.

HOUSE	1. TYPE OF DWELLING:	2. NO. OF ROOMS:	3. FLOOR SPACE:	4. MATERIALS USED:	5. CONDITION:	6. HEATING	7. FUEL	8. CONSTRUCTION:	9. OCCUPANTS (AD. + CH.):
1	Single House	1 room 1 porch	16' x 12' 8' x 6'	lumber and plywood	inadequate	cookstove	oil	Eskimo-built	4 + 2
2	Single House	1 room 1 shed 1 porch	13' x 16' 7' x 14' 10' x 10'	lumber, plywood, board, canvas, asphalt paper.	inadequate	cookstove	coal & wood	Eskimo-built	3 + 6
3	Single House	1 room 1 porch	16' x 16' 8' x 8'	lumber, plywood, asphalt roofing, painted. (except porch)	inadequate	cookstove	wood & coal	D.N.A. - built (porch Eskimo built)	7 + 4
4	Shack of Scrap-material	1 room 1 porch	14' x 16' 9' x 9'	scrap-lumber, plywood, canvas	inadequate	cookstove	wood & coal	Eskimo-made	5 + 4
5	Shack of scrap-material	1 room 1 porch	12' x 16' 8' x 9'	lumber, plywood, canvas, wooden shingles.	inadequate	cookstove	wood	Eskimo-made	3 + 3

HOUSE	1. TYPE OF DWELLING:	2. NO. OF ROOMS:	3. FLOOR SPACE:	4. MATERIALS USED:	5. CONDITION:	6. HEATING:	7. FUEL:	8. CONSTRUCTION:	9. OCCUPANTS (AD. + CH.)
6	Single House	2 rooms 1 porch	10' x 8' 10' x 8' 9' x 9'	lumber, wood, canvas, asphalt paper.	inadequate	cookstove	coal, wood	Eskimo-	5 + 4
7	Single House	1 room 1 porch	12' x 16' 8' x 8'	lumber, plywood, metal sheet roofing.	inadequate	cookstove	oil	Eskimo-built	5 + 7
8	Half of double house	1 room	10' x 16'	wood, board, asphalt paper.	inadequate	cookstove	coal &	Eskimo-built	4 + 5
9	ditto	1 room	15' x 12'	wood, asphalt paper, canvas roofing.	inadequate	cookstove	oil	Eskimo-built	- + -
10	Shack of scrap-material	1 room 1 shed 1 porch	12' x 16' 6' x 8' 8' x 9'	wood, board, cardboard, canvas, asphalt paper.	inadequate	cookstove	oil	Eskimo-built	5 + 2
11	Single house	1 room	14' x 16'	plywood, lumber, asphalt roofing.	inadequate	cookstove	wood & coal	D.N.A. rigid frame structure.	1 + 3

	1.	2.	3.	4.	5.	6.	7.	8.	9.
PANEL	TYPE OF DWELLING:	NO. OF ROOMS:	FLOOR SPACE:	MATERIALS USED:	CONDITION:	HEATING:	FUEL:	CONSTRUC-TION:	OCCUPANTS (AD. + CH.)
12	Single House	1 room 1 porch	16' x 20' 9' x 14'	plywood, board, asphalt shingles	inadequate	cookstove	coal & wood	Eskimo-built	4 + 6
13	Single House	1 room 1 porch	12' x 16' 6' x 9'	lumber, plywood canvas roofing.	inadequate	cookstove	coal & wood	Eskimo-built	4 + 5
14	Single House	1 room 1 porch	16' x 16' 6' x 8'	lumber, plywood, asphalt roofing. painted.	inadequate	cookstove	wood & coal	D.N.A. built (except for porch)	2 + 2
SNAFU: 1	Single House	3 rooms	20' x 24'	Plywood, corrugated iron	inadequate	cookstove	coal & wood	DOT Mission hut	2+6
2	Single House	1 room 1 porch	16' x 20' 8' x 16'	wood, board, asphalt paper	inadequate	cookstove	coal & wood	Eskimo-built	- + -
3	Shack of Scrap Material	1 room	16' x 18'	plywood, lumber, canvas roofing.	inadequate	cookstove	wood or seal oil	Eskimo-built	6 + 3
4	Shack of Scrap Material	1 room	12' x 16'	Scrap lumber corrugated zinc & asphalt paper roofing.	inadequate	cookstove	wood or seal oil	Eskimo-built	3 + 5

HOUSE	1. TYPE OF DWELLING:	2. NO. OF ROOMS:	3. FLOOR SPACE:	4. MATERIALS USED:	5. CONDITION:	6. HEATING:	7. FUEL:	8. CONSTRUCTION:	9. OCCUPANTS (AD. + CH.)
5	Single House	1 room 1 room	12' x 8' 10' x 8'	lumber, asphalt paper.	inadequate	primus stove	oil	Eskimo-built	3 + 5
6	Shack of Scrap Material.	1 room	15' x 18'	lumber, plywood, canvas.	inadequate	cookstove	wood seal - oil.	Eskimo-built	5+ 3
7	Single House	1 room 1 porch	16' x 23' 8' x 11'	lumber, plywood, board, canvas & asphalt roofing.	inadequate	cookstove	wood, seal	Eskimo-built	4 + 2
8	Single House	1 room 1 room 1 porch 1 shed	8' x 11' 8' x 11' 8' x 11' 8' x 8'	lumber, plywood, board, asphalt paper roofing.	inadequate	cookstove	coal & wood	Eskimo-built	7 + 11
MUNN BAY:	Double House								
1	Shack of scrap Material	1 room	10' x 12'	scrap lumber, board, canvas.	inadequate	cookstove	wood, seal oil	Eskimo-built	4 + 3
2	Ditto	1 room	10' x 14'	ditto	inadequate	cookstove	"	"	2 + 4
	"	1 room	8' x 16'	"	"	"	"	"	7 + 2
KIRCHOFFER:									
1	Double House Shack of scrap material.	1 room 1 room 1 porch	20' x 16' 18' x 16' 6' x 16'	scrap lumber, board, plywood, canvas.	inadequate	cookstove	wood seal oil	Eskimo-built	8 + 5

Notes to Appendix A.

1. TYPE OF DWELLING: CORAL HARBOUR:

- 5 houses have been built of scrap material.
- 9 houses have been built with material (lumber & plywood).

SNAFU:

- 3 shacks of scrap material.
- 5 shingle houses. One is a Nisson hut purchased from D.O.T. The other 4 are simple frame structures. One has not been used over the last winter.

MUNN BAY:

- 3 shacks of scrap material.

KIRCHOFFER:

- 2 shacks of scrap material. One a double-house has been used. The other was not used over the last winter.

2,3. NO. OF ROOMS AND FLOOR SPACE:

The average house consists of 1 room and a porch. The D.N.A. built houses lack a porch, which is felt to be a great drawback in this climate. Only a few houses have a second room or a shed attached to the house.

The average floor space per person (based on room space only, omitting porches and sheds) is: (square feet are used)

27.04 in Coral Harbour
31.17 in Snafu (unoccupied house omitted)
17.64 in Munn Bay
46.77 in Kirchoffer (unoccupied house omitted)

The floor space of the respective houses were based on measurements taken at the outside of the houses. This may mean a slight exaggeration of the actual room size.

4. MATERIALS USED:

The houses have been built of lumber and plywood. The shacks have been built of scrap lumber, plywood, board, canvas, asphalt paper and corrugated iron. In a few cases grasses have been used for insulation. Of all houses other than shacks, only 3 (constructed by D.N.A.) have been insulated and painted. The other houses and the shacks have no insulation (apart from the grass and mosses used in the shack at Kirchoffer) and are not painted.

5. CONDITION:

Inadequate in all cases. This judgement has been based on the following criteria:

- Complete lack of toilet facilities and water supply.
- Absence of insulation, causing excessive loss of heat. (The D.N.A. houses have been insulated but lack a porch which results in considerable loss of heat through the door which is frequently used in a community where neighbouring is an established pattern.)
- No privacy.
- The condition of the structure is good to fair in the case of the houses properly constructed of lumber and plywood. Inadequate in the case of the shacks.

6, 7. HEATING AND FUEL:

Fuels used by Households in the Respective Communities:

	oil:	wood:	coal & wood:	Seal oil and wood:	total households:
CORAL HARBOUR:	4	1	9	-	14
SNAFU:	-	-	2	4	6 + 1#
MUNN BAY:	-	-	-	3	3
KIRCHOFFER:	-	-	-	1	1

one household in Snafu did not use a cookstove, but a primus for heating purposes. Apart from this exception all households use cookstoves. The cookstove show a wide variety. Some have been obtained as proper stoves (although all of them are rather old), others have been made out of oil-drums.

The wood used for fuel consist of scrap lumber left by the U.S. Services and the D.O.T. This supply is coming rapidly to an end. It is expected that either this or next winter other replacing fuels will have to be used. In Coral Harbour most of the people already use coal in addition to wood. In Snafu, all Okomiut residents use seal oil besides wood. The Aivilik residents use coal in addition. In the Okomiut settlements of Munn Bay and Kirchoffer Seal oil is used.

8. CONSTRUCTION:

In general there are three types of house: (a) the Eskimo built shack, (b) the Eskimo built house and (c) the D.N.A. built house.

Eskimos usually build their houses in a simple frame-type structure. In contrast to the D.N.A. houses they add a porch and windows to the house. The porch is a sheer necessity. The windows are apparently a desirable feature of a house as even the most delapidated shack has got at least one of them. All houses lack storage facilities. Even simple

boards along the wall are not present. It may be advisable to bear the need for some storage room in mind for future Eskimo housing. None of the houses employs any floor covering. As mentioned before, the Eskimos preferred a simple frame structure to the rigid frame structure as promoted by D.N.A. Waste of space seems to be the main criterion for their opinion.

9. OCCUPANTS:

The composition of the household is based on kinship relations. The density per household (square feet per person) is quite varied. One house at the Kirchoffer had been abandoned. The household moved to C.H. One house in Snafu was not used. After a short stay the inhabitants moved out to share a house with another related family. The reason seems to have been that the house of the latter was warmer.

ESTIMATED VALUE:

The value of the shacks is nil. The approximate value of all other houses will be about the same as that of a standard rigid-frame house as supplied by D.N.A. This evaluation is based on the amount of lumber used. The value may be a little higher as Eskimo built houses all have a porch (in average about 8' x 8') attached to the basic one-room house.

ILLUMINATION:

All use gas lamps.

TOILET FACILITIES:

None.

NOTE:

The older part of the settlement, around the H.B.C. store, the Anglican and R.C. is predominately occupied by Aivilik people (only one exception). The Okomiuts who in general moved in later can be found near the buildings of Northern Affairs and the Community School. The latter buildings all being of relatively recent construction.

APPENDIX B

Vital Statistics 1950-1960

Year	Deaths (cause of death)*																			Total	Births	Increment
	1			2			3			4			5			6	7					
	i	c	a	i	c	a	i	c	a	i	c	a	i	c	a	a	i					
1950	1		2							2	1	6			1		1			14	9	- 5
1951			1							4	1	6								12	13	1
1952										2	1	3				2				8	12	4
1953											1					2				3	11	8
1954				1			1		1	2	1	7								13	10	- 3
1955				3						1			1							5	11	6
1956										2										2	13	11
1957				2		2				2		1				1	1			9	9	-
1958													1							1	17	16
1959										1		1								2	9	7
1960				1																1	15	14
																		Totals		70	129	59

* 1 - Tuberculosis

2 - Pneumonia

3 - Malnutrition

4 - Unknown

5 - Other: Includes one cause of death not stated, one drowning, and one suicide.

6 - Childbirth, or complications arising therefrom.

7 - Stillborn or premature birth

i = infant, c = child, a = adult.

SOURCE: Birth & Death Certificates filed at Coral Harbour.

APPENDIX C DEPARTMENTAL LONGLINER

Objectives: Provision of a vessel of larger capacity than a Peterhead for the purposes of aiding the Eskimos in resource harvesting, seasonal harvesting of Duke of York Bay and Wager Bay, and administration. This vessel would be particularly useful for further investigations in the Duke of York Bay area where more work is necessary to determine the resource potential and augment work to be done by the Fisheries Research Board. In addition, when time and other circumstances permit it could be used to aid the people of Repulse Bay.

Starting date: Summer 1962

Local participation: The boat will provide work for a crew of three on the occasions when it is used for administration, biological investigations and tourism. In the course of a season it could be used by 20 - 30 Eskimos for walrus hunts etc.

Revenue: At least one season's operations will be required to establish the most satisfactory rental rate for resource harvesting. Therefore, the first year's operations should be regarded as experimental to determine the operating costs of the boat for various enterprises. On walrus hunts it should be understood that the boat will get the internal organs of the animals caught and that these would be used for processing into dog food.

Costs etc:

Price	$ 17,000.00
Transport	1,500.00
Delivered price	$ 18,500.00
Annual charge when amortized at 5% over 20 years	$ 1,465.20
Allow a 90 day season, then:	
Annual charge per day	$ 16.30
Maintenance per day (based on $400 per year)	4.50
Daily overhead	$ 20.80

Operating cost for an 8 hour day:

Daily overhead	$ 20.80
Crew	35.00
Fuel	16.00
Project Officer	20.00
	$ 91.80

If boat is used for walrus hunt, assume that (1) only one crew member (engineer) will be needed, (2) Eskimos pay fuel. This cost per day would be:

Daily overhead	$ 20.80
Crew	10.00
Project Officer	20.00
	$ 50.80

Examples of operations:

1. Seasonal harvest of Duke of York Bay.

   Allow 20 days with 12 days of travel. Eskimos provide deck crew, paid engineer, and Department carries cost of Project Officer.

Daily overheads	20 x $20.80	$ 416.00
Engineer	20 x 10.00	200.00
Fuel		260.00
		$ 876.00

Assume 15 tons of food is harvested, cost per lb. = 3¢ approx.

2. Walrus hunt. Eskimos provide deck crew and fuel. Assume 10 day trip and 10 walrus taken i.e. 10,000 lbs. of dressed carcasses.

Cost of trip:

	Eskimos carry cost of Project Officer	D.N.A. carries cost of Project Officer
Daily overhead	$ 208.00	$ 208.00
Engineer	100.00	100.00
Project Officer	200.00	-
	$ 508.00	$ 308.00

deduct:

Boat's share, 2,700 lbs. of offal at 5¢ lb*	$135.00	$ 135.00
Cost per lb. of 10,000 lbs. of meat	.04	.02

Remarks An important function of the boat will be to collect offal etc. for processing into dog food. To take advantage of the boat a food processing pilot project should be initiated also in the summer of 1962.

* Arbitrary evaluation